

Ladbroke Grove Rail Inquiry Part 1 Report - Health and Safety Commission's Action plan to implement the recommendations

Background

Thirty one people lost their lives in the train crash at Ladbroke Grove in October 1999 and many others were injured. The Health and Safety Commission remains determined that the recommendations of the Inquiry Report, published on 20 June 2001, would be acted on.

The tables that follow show all the recommendations, the initial response from industry and the action plan. HSC will follow up how the action plan is discharged, recognising that ownership of and responsibility for the recommendations rests with the duty holder. All reports mentioned in this action plan should be sent to HSE as we have a process of examination and close out, but the action is by and has to be owned by the industry.

Initial comments from industry

In general, the recommendations in the report are all accepted in principle. Such difficulties as arise are mainly limited to the feasibility of some of the timescales proposed, in particular for recommendations 26, 33, 34 and 51. The first of these is a recommendation linked to other recommendations that could potentially involve a large programme of work, the scale of which is not yet clear. Recommendations 33 and 34 are recommendations where the procedures involve changing Group Standards, sometimes to a longer timescale. There are potential difficulties relating to recommendation 51.

Railway Safety organised an industry review group in preparation for individual responses. The review, led by them, had representatives from passenger and freight operators, contractors, manufacturers, ROSCOs and Railtrack. All concerned agreed which bodies should be involved in the implementation and agreed the lead organisation where more than one body is involved.

The three ROSCOs are concerned that some of the timescales are too tight for full development as only finite resources are available. They believe that consideration would need to be given to relaxing certain timescales where it can be demonstrated that progress is being made. Account must also be taken of the funding implications. They argue that clear thought needs to be given to priorities and funding arrangements. There is concern that different levels of cost benefit analysis are being used to evaluate the implications of certain modifications.

GTRM note that actions on TOCs and ATOC do not take account of Infrastructure TOCS. They also assume that trains only operating within possessions are not included in the recommendations. TUC endorsed the recommendations and would expect that employers and HMRI would involve unions in discussions to implement the recommendations; this goes beyond normal consultations. ASLEF are aware that organisations have national and local systems in place to act on the recommendations and will be looking for the lead organisations to follow them up. TUC believe the case against driver only operated (DOO) trains is now unanswerable. TUC and ASLEF believe that driver's representatives should form part of signal sighting committees.

Although only a few of the recommendations appear directly applicable to LUL as a TOC, they are in the process of considering the whole report. Although the majority of recommendations do not affect heritage railways, HRA have contacted their members, highlighting some key issues. RS say that RGS cannot be considered in isolation and assert that there has to be clarity and parity with HMRI's Railway Safety Principles and Guidance. In several cases there is a direct link between

recommendations in this report, and some recommendations have links to the Joint Inquiry report and the Southall report - these have been noted in this report.

Summary

The response of the industry to particular recommendations is further elaborated in the table which follows, which shows for each recommendation a summary of the response from industry together with the action plan.

Abbreviations

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| ACOP | Approved Code of Practice |
| ACPO | Association of Chief Police Officers |
| ACPOS | Association of Chief Police Officers in Scotland |
| ATOC | Association of Train Operating Companies |
| BTP | British Transport Police |
| EUKL | Eurostar (UK) Ltd |
| FGW | First Great Western |
| FOC | Freight Operating Company |
| GNER | Great North Eastern Railway |
| GTRM | GT Railway Maintenance Ltd |
| HEX | Heathrow Express |
| HRA | Heritage Railway Association |
| HSC | Health and Safety Commission |
| HSE | Health and Safety Executive |
| LUL | London Underground |
| LTUC | London Transport Users Committee |
| RGS | Railway Group Standard |
| RITC | Rail Industry Training Council |
| RSC | Railway Safety Case |
| ROSCO | Rolling Stock company |
| RIAC | Railway Industry Advisory Committee |
| RPC | Rail Passengers Council |
| RS | Railway Safety |
| RT | Railtrack |
| SWT | South West Trains |
| TT | Thames Trains |
| TOC | Train Operating Company |

Health and Safety Commission
November 2001

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| Support of the bereaved and injured (recommendations 1 to 4) | | |
| <p>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. Paragraph 4.119 refers.</p> <p>Action on ACPO, ACPOS</p> | <p>ACPOS has developed a National Casualty Bureau system based on Holmes 2 computerised Major Inquiry application. Roll out is due to be completed in 2002. This will allow each ACPO region in England, Wales and Northern Ireland to provide its own linked casualty bureau system. ACPO will establish Regional User Groups to ensure consistent approach to use and development of all related issues. Training in Casualty Bureau Procedures is underway. Metropolitan Police commissioned a review of its own Casualty Bureau Procedures; ACPOS will consider them as part of its own review.</p> | <p>ACPO and ACPOS to complete roll-out of a National Casualty Bureau based on Holmes 2, ensuring that it has the facility for direct computer entry and a system for returning calls, by December 2002. Appropriate staff training to be completed to the same timescale.</p> |
| <p>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.</p> <p>Action on ACPO, ACPOS</p> | <p>When Holmes 2 is fully implemented in Scotland, all information from callers will be entered directly onto computer and be available to the host force collating the information. See comments for recommendation 1. ACPOS has formed Standing Working Group on Emergency Procedures, practitioner level representatives, to ensure co-ordinated response to Casualty Bureau issues. Will be represented at national seminar on 25/26 September.</p> | <p>ACPO and ACPOS to secure completion of national roll-out of the system to all police forces.</p> |
| <p>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.</p> <p>Action on ACPO, ACPOS Up to 20/12/2001</p> | <p>Emergency services throughout the UK have agreed that the Police Casualty Bureau will be the prime source of information regarding casualties. Linked telephony across Scottish forces is activated by the host force and a single number is issued to the public. The host force manages the distribution of incoming calls to other receptor forces.</p> | <p>ACPO and ACPOS to set up a system to ensure that local police forces, in co-operation with emergency services, provide a common telephone number (where not already in place) for use by members of the public who are seeking to give or to obtain information about persons who have, or may have, been involved in a major incident, by December 2001.</p> |

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| <p>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. Paragraph 4.122 refers.</p> <p>Action on Railway Group Members Up to 20/12/2001</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>RS state that this is out of scope of RGS, but is in GO/GN3672. SRA is involved through the RGS consultation process. Revised standards expected to be published April 2002.</p> <p>The official rail users committees (RPC) would expect to be consulted.</p> | <p>RS to complete the review by December 2001. The review should include details of future actions.</p> <p>RS to include RPC's in the consultation, together with representatives from the survivors / relatives groups.</p> <p>ATOC to complete the review of their ACOP on 'Joint industry provision of customer care following a major passenger rail accident' in sufficient time to allow RS to complete their review.</p> <p>The mechanism for delivering actions to be reviewed after December 2001.</p> |

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| Track and signalling changes (recommendation 5) | | |
| <p>Cullen central recommendation 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. Paragraph 7.17 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> | <p>For new proposals for material changes to track and signalling, RT will, immediately, include an express consideration of all relevant safety issues by an analysis of the material factors, if necessary by means of a risk assessment.</p> <p>RT will review the relevant RGS, by December 2001, and if necessary submit a proposal for revision.</p> <p>RT will establish a 'Centre of Excellence' for all disciplines involved in layout design, by December 2001.</p> |

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| Implementation of Formal Inquiry recommendations (recommendations 6 and 7) | | |
| <p>Cullen central recommendation 6. Railtrack procedures, and the actions of management to enforce them, should be directed to ensuring that:</p> <ul style="list-style-type: none"> 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. Paragraph 7.106 refers <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>Included in the review of GO/RT3434/3 replaced by GO/RT3473 for issue December 2001.</p> <p>Scotrail suggest that TOCs should be part of the process (and for rec 7) and progress on implementation should be monitored.</p> <p>ATOC suggest that RS should also have responsibility for this action.</p> <p>RT and some TOCs suggest that this should be directed to all Railway Group members, as there are transferable lessons.</p> | <p>RT will establish a Recommendations Management Team, by 20 December 2001, to ensure timely delivery of Inquiry recommendations and the identification and development of industry-wide IT based tracking systems. The team will be visible and involve all TOCs as necessary and meet points listed in recommendations.</p> <p>RT (item (v)) to consider establishing a recommendations review group for exceptional items and / or where the need arises and report by 20 December 2001.</p> |

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| <p>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. Paragraph 106 refers.</p> <p>Action on Railtrack Up to 20/6/2002</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>RT constrained by Safety Case regulations in relation to TOCs.</p> | <p>TOCs to ensure they have arrangements / systems in place to track and implement recommendations, to include issues as in recommendation 6, by 20 December 2001.</p> <p>RS to lead an industry recommendations tracking working group and to propose a system for implementation by August 2001.</p> <p>RT, using the RS information, intend that their tracking system, as in recommendation 6 (ix), will track those recommendations directed to TOCs where risk could be imported onto Railtrack's network, by June 2002.</p> |

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| Signalling in the Paddington area (recommendations 8 - 10) | | |
| <p>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. Paragraph 7.125 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>GK/RT/0078 has been superseded by GI/RT7006, issued December 2000 for compliance by February 2001. This addresses overrun risk assessment for both changes to track/signalling and changes of operational use.</p> | <p>RT to complete the risk assessment for the signals in the Paddington area and carry out any consequent actions required under RGS GI/RT7006, as soon as possible, but in any case by December 2001.</p> |
| <p>Cullen central recommendation</p> <p>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. Paragraph 7.126 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>Clarification sought on what is meant by '0-2 mile post'.</p> <p>RT commissioned work on the layout as it existed on 5 October 1999, the layout when the route was reopened and have modelled options under consideration - see comments for recommendation 8. RT consider this work completed.</p> | <p>RT to repeat safety examination prior to next material change, expected October 2001, taking into account any associated risks on the railway.</p> <p>Action on RT to ensure that current procedures and arrangements are in place, to identify what may be a material change and to undertake risk assessment prior to implementation.</p> <p>HMRI to satisfy itself on the adequacy of the risk assessment before any changes are implemented.</p> |

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| <p>Cullen central recommendation</p> <p>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:</p> <ul style="list-style-type: none"> i. 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; ii. and such measures have been implemented and shown to be effective. <p>The risk assessment should take account of the following possible measures, inter alia:</p> <ul style="list-style-type: none"> i. the conversion of four-aspect to three-aspect signals; ii. the addition of flank protection at SN109 and elsewhere if appropriate; iii. the installation of standard, simple, non-distracting and consistent means of line identification; iv. the alteration of the height, configuration and mounting of signals; and v. the installation of an additional gantry to the east of Portobello Bridge for carrying Down signals previously carried on gantry 8. <p>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. Paragraphs 7.127 and 7.128 refer.</p> <p>Action on Railtrack</p> | <p>Industry has agreed that RT will take the lead. Recommendation accepted.</p> <p>RT, in full co-operation with the T OCs, has been working towards a reconfiguration of the Paddington layout. Informal proposals have been passed to HMRI for comment, formal proposal to follow.</p> <p>Items (i) to (iv) are being implemented within the revised Signalling Scheme proposed for Paddington 0-2 MP.</p> <p>Item (v) is not being pursued as a result of proposed changes for gantry 8. Work is ongoing with signalling simulations to validate revised proposals.</p> | <p>RT to instruct all relevant staff, by end of September 2001, that no changes to the direction of running on line 3 or the current speed limits on any of the lines out of Paddington, can be made unless and until HMRI have formally declared they are satisfied.</p> |

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| Driver management and training (recommendations 11 to 19) | | |
| <p>11. Signallers and drivers should jointly attend away days and other training processes to develop their mutual understanding. Paragraph 9.28 refers.</p> <p>Action on Railtrack, TOCs Up to 20/6/2002</p> | <p>Industry has agreed that RT will take the lead. Recommendation accepted in principal and timescale accepted.</p> <p>RT agree the value of joint training sessions. The costs will be significant and RT/TOCs and FOCs need to agree how best to arrange this.</p> <p>Links with recommendation 42.</p> <p>TOCs noted that this is complex, given the ratio of drivers to signallers and the number of TOCs that interface with each signalling centre. This activity must be co-ordinated with specific goals and objectives and cannot progress without joint commitment from RT.</p> | <p>TOCs and FOCs will consider and discuss with relevant Zones how to establish joint training / briefing. RT and TOCs to initiate joint away days by June 2002. RT, TOCs and FOCs to decide the frequency of such events by June 2002. When such arrangements are agreed, the arrangement of and attendance at such events must be incorporated into training manuals or instructions.</p> |
| <p>Cullen central recommendation</p> <p>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.</p> <p>Action Thames Trains Up to 20/12/2001</p> | <p>Industry has agreed that TT will take the lead. Recommendation and timescale accepted. Note resource implications for extending to all TOCs.</p> <p>ATOC advise that the issue of recruitment and training should not be underestimated. Implications on staff and supervisory resource deployment across TOCs need to be taken into account.</p> | <p>TT will implement monthly, structured face-to-face, briefing for all its drivers and share initial lessons with other TOCs, by 20 December 2001.</p> <p>ATOC will review TT experience and submit report to HSE with proposals for how best practice for briefing drivers can be rolled -out to all other TOCs and others who operate on RT network, by June 2002.</p> |

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| <p>13. The adoption by TOCs of the teaching and practice of defensive driving is endorsed. Paragraph 9.39 refers.</p> <p>Action on TOCs</p> | <p>Industry has agreed that individual TOCs will take the lead. Recommendation accepted.</p> <p>ACOPs have been distributed and TOCs need to report progress. Defensive driving is now a subset of professional driving initiative led by RS. Railway Group members will continue to give briefing on defensive driving techniques to staff and encourage drivers to practice the techniques.</p> | <p>TOCs to ensure that their commitment to the teaching and practice of defensive driving is detailed, and how implementation of ATOC's ACOP is taken forward, in their Safety Case.</p> |
| <p>Cullen central recommendation</p> <p>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.</p> <p>Action on TOCs Up to 20/12/2001</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>TOCs, will review systems and procedures to ensure consistent application and assessment. Some TOCs waiting for agreed methodology from RS to avoid duplication of effort.</p> <p>ASLEF want to discuss what would happen if a driver failed a 3-year re-test.</p> <p>RS are identifying the relevant National Occupational Standards held by RITC as the criteria to be used in assessing competence.</p> <p>HSE will need to discuss this recommendation with HRA, CPT and LUL.</p> <p>This work will need to be reviewed in the light of Cullen 2 recommendations 24 and 25.</p> | <p>Each train operator on the RT network must review their current procedures to ensure their systems are effective in delivering driver competence.</p> <p>RS will develop proposals for a study of licensing safety critical staff, by November 2001, for a research project and report in December 2001 on the scope and timetable for the project. Any proposals should include a protocol for those drivers who fail tests discussed with the relevant TUs. TOCs will review their procedures in the light of emerging conclusions from the RS work.</p> |

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| <p>15. The ATOC study on the central licensing of drivers should be progressed expeditiously. Paragraph 9.50 refers.</p> <p>Action on ATOC Up to 20/6/2002</p> | <p>Industry has agreed that ATOC will take the lead. Recommendation and timescale accepted.</p> <p>Research arising from Ladbroke Grove inquiries are not in the budget agreed with ORR - revised budget to be submitted by RS.</p> <p>HEx concerned that this adds another layer of bureaucracy with no real added value. RITC liaising with ATOC and RS.</p> | <p>ATOC will review the present arrangements for driver training and, if appropriate, produce proposals for change.</p> <p>ATOC to publish a study with proposals for taking this forward and to include proposals for involving non-passenger TOCs, by June 2002. ATOC cannot speed up the process.</p> <p>RS to complete study of licensing all safety critical employees, including the implications of forthcoming European legislation. ATOC review to feed into this study.</p> |
| <p>16. ATOC should consider the application of NVQs to the driver licensing scheme presently under their consideration. Paragraph 9.52 refers.</p> <p>Action on ATOC Up to 20/6/2002</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>Research arising from Ladbroke Grove inquiries are not in the budget agreed with ORR - RS to submit revised budget.</p> <p>RITC liaising with ATOC and RS.</p> | <p>ATOC to consider the application of NVQs as part of its review of driver training (see recommendation 15).</p> <p>RS to consider the use of NVQs in their work on safety critical staff.</p> |

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| <p>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. Paragraph 9.60 refers.</p> <p>Action on Railway Group members</p> | <p>Industry has agreed that RS will take the lead. Recommendation accepted.</p> <p>RS has sponsored some work by AD Little which will be extended by 2 seminars in November. This will enable RS to develop a strategy to help the rail industry to improve their safety culture. A variety of tools have already been or are being developed. A second edition of the good practice guide to “competence in strategic safety management “ has been published and a supporting software package will be available from November 2001.</p> <p>ATOC have approved a policy paper looking at safety culture principles. Many respondents noted that successful implementation within the industry will mean that HSE (HMRI) need to take the recommendation on board. Implementation of proposed corporate manslaughter legislation will influence the development of an industry wide safety culture.</p> <p>RT has done work following on from the DuPont report and culture survey work is being actively progressed. Some TOCs doubt the effectiveness of an industry-wide no blame culture, but accept the need to continue to develop a no blame culture within the organisation and continue to co-operate with other players. SWT identified 2 issues - industry-wide relationships and relationships within individual organisations.</p> | <p>RS plans to consult on a draft strategy from December 2001 and make clear what resources are available. RS and Railway Group members will take this into account when developing their 2002/03 company safety plans. RS will validate that appropriate actions have been identified and adopted.</p> <p>RS to review progress and report to HSE by June 2003.</p> <p>RS will develop a research theme strategy for safety culture by December 2001.</p> |

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| <p>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. Paragraph 9.64 refers.</p> <p>Action on Thames Trains, TOCs Up to 20/6/2002</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>(See recommendations 11, 14 and 42)</p> | <p>RS to ensure that Standards properly include provision for driver training revision and need for criteria. Links with National Occupational Standards.</p> <p>TT will develop a pass standard for each element of the driver training programme and will specify the frequency for how often trainee drivers should repeat key steps before final assessment.</p> <p>All TOCs to ensure their Safety Case contains commitments for their driver training and testing programmes to include specific, relevant and validated criteria, by 20 June 2002.</p> |
| <p>19. Further research should be carried out to develop the understanding of human factors as they relate to train driving. Paragraph 9.66 refers.</p> <p>Action on Railway Safety, TOCs</p> | <p>Industry has agreed that RS will take the lead. Recommendation accepted.</p> <p>Driver management an important element as it relates to driver training not train driving. RS ready to commission and lead the research programme. Research arising from Ladbroke Grove inquiries are not in RS budget agreed with ORR - revised budget to be submitted.</p> <p>Links to Southall Inquiry, recommendations 1 and 9 and Joint Inquiry recommendation 33.</p> <p>Thameslink have shared results of their circadian rostering patterns and lifestyle training with industry.</p> | <p>RS to publish strategy for human factors research, in consultation with Railway Group members and HSE by February 2002 and report annual progress to HSE.</p> <p>The strategy to include practical proposals on applying findings and results within the industry.</p> |

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| Safety Auditing (recommendations 20 and 21) | | |
| <p>20. The safety audit process should be strengthened, and the quality of communication during the process should be improved. Paragraph 9.44 refers.</p> <p>Action on Railway Safety, Railtrack, TOCs Up to 20/12/2001</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>Note that this recommendation is transferable across the industry. Linked to recommendation 6.</p> <p>The requirement to 'strengthen' audit process needs clarification.</p> <p>RT has an audit manual which has been fully developed and consulted on. Finalised version to be issued in August 2001. Already in use within RT.</p> <p>TT looking for clear statements of non-compliance and areas for improvement to be included in reports. Such requirements to be risk based.</p> <p>RS will wish to discuss this further in the light of Cullen 2 recommendations.</p> | <p>RS to report to HSE by 20 December 2001, how the safety audit process could be improved, taking into account the totality of audits within the industry.</p> <p>In particular, RS to review the adequacy of the current system to see if it can be further improved beyond those improvements already in place, especially for good communication. To make proposals for improvements within industry, by 20 December 2001.</p> <p>HSE to clarify the wording 'strengthen' and 'improve' by December 20 2001.</p> |
| <p>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. Paragraph 9.46 refers.</p> <p>Action on Railtrack, TOCs Up to 20/12/2001</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>RS to lead in facilitating and promoting good practice, Railtrack and TOCs to deliver. Audit manual produced in August 2001. Further discussions are needed in the light of Cullen 2 recommendations.</p> <p>Already policy within TOCs but managers will be reminded.</p> | <p>RT and all train operators using their infrastructure will instruct managers to disclose all relevant material, from December 2001.</p> <p>RS should consider this in their review, see recommendation 20, and should ensure audit procedures make this point.</p> |

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| Signal sighting (recommendations 22 to 32) | | |
| <p>Cullen central recommendation 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. Paragraph 11.13 refers.</p> <p>Action on Railway Safety Up to 20/12/2001</p> | Industry has agreed that RS will take the lead. Recommendation and timescale accepted. | RS will publish Issue 4 of the standard in October 2001, to action this recommendation. |
| <p>Cullen central recommendation 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. Paragraph 11.13 refers.</p> <p>Action on Railway Safety Up to 20/12/2001</p> | Industry has agreed that RS will take the lead. Recommendation and timescale accepted. | RS will publish Issue 4 of the standard in October 2001, to action this recommendation. |
| <p>Cullen central recommendation 24. Human factors experts should be involved in the revision of the standard on signal sighting. Paragraph 11.13 refers.</p> <p>Action on Railway Safety Up to 20/12/2001</p> | Industry has agreed that RS will take the lead. Recommendation and timescale accepted. | RS will publish Issue 4 of the standard in October 2001, to action this recommendation. |
| <p>Cullen central recommendation 25. The reference to “very short duration” in the standard on signal sighting should be clarified (paragraph 11.14).</p> <p>Action on Railway Safety Up to 20/12/2001</p> | Industry has agreed that RS will take the lead. Recommendation and timescale accepted. | RS will publish Issue 4 of the standard in October 2001, to action this recommendation. |

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| <p>Cullen central recommendation 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. Paragraph 11.14 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation accepted and encompassed within work currently underway. Timescale is not practical as the recommendation links to recommendation 28 on RS which must be completed first. The programme then potentially involves review of a large number of locations.</p> <p>Pilot now underway with WCRM on interpretation of ‘short duration’ and research is underway to identify best practice.</p> <p>A defined process and plan will be developed, taking into account the retrospective element. RT will issue a SIN, but given the 25,000 signals, the priority score is not practical.</p> | <p>RT will develop a company standard by February 2002. RT will undertake a retrospective review of signals and develop a programme to rectify those signals not meeting the standard; work to be completed by September 2002. RT will report progress on 20 June 2002.</p> |
| <p>Cullen central recommendation 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. Paragraph 11.16 refers.</p> <p>Action on Railway Safety Up to 20/12/2001</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>Seeking confirmation from HMRI that the list in GK/RT0037 is acceptable (longer list of OLE items within spirit of recommendation)</p> | <p>RS to amend the Standard, if necessary and after discussion with HSE, concerning those parts of equipment which can be classified as ‘wires and droppers’ by 20 December 2001.</p> |

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| <p>Cullen central recommendation 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. Paragraph 11.16 refers.</p> <p>Action on Railway Safety Up to 20/12/2001</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>RS will ensure that the powers of the sighting committee as set out in RGS are consistent with final paragraph of 11.16.</p> | <p>RS to amend the signal sighting RGS, using the rapid response procedure, by 20 December 2001.</p> |
| <p>Cullen central recommendation 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. Paragraph 11.17 refers.</p> <p>Action on Railway Safety Up to 20/12/2001</p> | <p>Industry has agreed that RS will take the lead. Recommendation accepted.</p> <p>Timescale would only be achievable through rapid response delivery of the standards process but RS reluctant to shorten consultation period for a key interface standard.</p> <p>Intent of recommendation is accepted but not as worded. Existing trains v new trains, different RGS - both to be reviewed to ensure compatibility.</p> | <p>RS to amend existing RGS, insofar as possible to fastest timetable using outside resource if necessary, but in any case by March 2002.</p> |

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| <p>30. The report by W S Atkins "Initial Study of Signal Sighting Practice on Railtrack Infrastructure", Issue 1, 6 March 2000, is commended. Paragraph 11.19 refers.</p> | <p>Recommendation acknowledged and accepted by all parties.</p> | <p>RS to incorporate the information in the WS Atkins study in a revised RGS (see recommendation 28), by March 2002.</p> |
| <p>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. Paragraph 11.20 refers.</p> <p>Action on Railtrack, TOCs Up to 20/6/2002</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>SWT - real issue is dealing with the recommendations not identifying the issues.</p> | <p>RT to issue a Signal Sighting Competence Standard, along with a training pack by 31 March 2002.</p> <p>RT and TOCs to ensure adequate numbers of fully competent staff are in place by June 2002.</p> |
| <p>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. Paragraph 11.22 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>Intended way forward is to be strengthened. Clearly an existing part of Zone SPADRAM activity. If Zones do not accept SSC recommendations then the SSC should be reconvened to re-examine the disputed issues and the outcome considered by Zone managers. RS considering revision to RGS to require agreement between RT and SSC.</p> | <p>RT to make commitment to meet this recommendation in its Safety Case, supplemented by details in its SMS, by 20 December 2001.</p> |
| SPAD (recommendations 33 to 35) | | |
| <p>Cullen central recommendation</p> <p>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. Paragraph 11.27 refers.</p> <p>Action on Railway Safety Up to 20/12/2001</p> | <p>Industry has agreed that RS will take the lead. Recommendation accepted. Timescale is not achievable due to the consultation requirements to change Group Standards.</p> <p>A rapid response standard is not suitable as no industry consultation will take place. RS propose that the timescale should be extended to 12 months. Significant action is however underway, unrelated to the change to the Standard.</p> | <p>RS to review and propose any necessary actions to HSE by December 2001.</p> |

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| <p>Cullen central recommendation 34. The use of the word “disregard” in the Group Standard on SPADs and its associated documentation should be reconsidered. Paragraph 11.29 refers.</p> <p>Action on Railway Safety Up to 20/12/2001</p> | <p>Industry has agreed that RS will take the lead. Recommendation accepted. Timescale not achievable due to the consultation requirements to change Group Standards. RS suggest it should be extended to 12 months.</p> <p>This will be reconsidered and associated guidance will be worded to support the meaning of ‘disregard’. RS will accept recommendation if they can find an appropriate alternative terminology. Will affect a number of RGSs, amendments will be made when other work is required on those Standards. Without quick agreement on alternative terminology GK/RT0037 issue 4 will be published with ‘disregard’</p> | <p>RS will conduct a review and make proposals if appropriate, looking for possible alternative terminology. RS to report to HSE by 20 December 2001.</p> |

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| <p>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. Paragraph 11.31 refers.</p> <p>Action on Railtrack, TOCs Up to 20/6/2002</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>The industry's use of the term 'human factors' does not align with the outside world and this will be addressed. Research will be needed during standards development.</p> <p>FGW will review FGW SPADs in last 3 years to better understand the part played by human factors.</p> <p>See also recommendation 19, Thameslink requires all staff investigated SPADs to have counselling and interviewing skills.</p> <p>RITC produce Drivers Managers Workbook which could help.</p> <p>RT has already put 200 staff through formal root cause analysis training and further developments with a training provider will include human factors elements included in a pilot course in Scotland Zone with a view to roll out across RT.</p> | <p>All RT and TOC staff who investigate SPADs to be competent in the identification of human factors and root cause analysis. RT and TOC's investigations of SPADs to include details of human factors and root cause analysis, with immediate effect. RS review reports to ensure adequate analysis.</p> <p>RT to lead on developing root cause analysis and RS to lead on human factors standard development, to be completed by March 2002. This work will lead to a new RGS, by 20 June 2002. RT to complete review of what additional actions are required, by March 2002. Once appropriate training is agreed, all staff undertaking SPAD investigation should be trained and their competence formally assessed, by June 2002. Records of competence should be maintained and refresher training at specific intervals, such intervals to be decided by RT by March 2002. HSE will expect refresher training to take place at least every 2 years.</p> |
| <p>Signallers' instructions (recommendations 36 to 38)</p> | | |
| <p>Cullen central recommendation</p> <p>36. The instructions for signallers as to their response to a SPAD should be:</p> <p>a) clarified; and</p> <p>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. Paragraph 12.9 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>Noted that this extends beyond the signalling instructions mentioned.</p> <p>RITC rewriting level 2 National Occupational Standards with support from RT.</p> | <p>RT to publish revised rules/instructions for signallers by December 2001. RT should keep RS informed so that RS can review the adequacy of RGS, by December 2001 and report to HSE.</p> |

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| <p>Cullen central recommendation 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. Paragraph 12.10 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>Note this extends beyond the signalling instructions mentioned. RT have finalised revised rules/instructions and are waiting approval.</p> <p>RITC rewriting level 2 National Occupational Standards with support from RT.</p> | <p>RT to publish revised rules/instructions for signallers by December 2001. RT should keep RS informed so that RS can review the adequacy of RGS, by December 2001 and report to HSE.</p> |
| <p>Cullen central recommendation 38. The 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. Paragraph 12.11 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>Note this extends beyond the signalling instructions mentioned. RT have finalised revised rules/instructions and are waiting approval.</p> <p>RITC rewriting level 2 National Occupational Standards with support from RT.</p> | <p>RT to publish revised rules/instructions for signallers by December 2001. RT should keep RS informed so that RS can review the adequacy of RGS, by December 2001 and report to HSE.</p> |
| <p>Signallers' training and (briefing recommendations 39 to 42)</p> | | |
| <p>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. Paragraph 12.13 refers.</p> <p>Action on Railtrack Up to 6 months</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>Railtrack have provided all Zones with briefing material</p> <p>RITC rewriting level 2 National Occupational Standards with support from RT.</p> | <p>RT to include a commitment in the Safety Case and instruct staff accordingly, by 20 December 2001.</p> |

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| <p>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. Paragraph 12.13 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>RS to support if standards are not adequate.</p> <p>RITC rewriting level 2 National Occupational Standards with support from RT.</p> <p>(see recommendation 35)</p> | <p>RT to ensure SPAD reports include a report from the signaller, with immediate effect.</p> <p>RT to review the existing Standards to clarify the role of the signaller in reporting, by 20 December 2001.</p> |
| <p>41. The use of simulators in providing fully effective training of signallers in dealing with emergencies is endorsed. Paragraph 12.15.</p> <p>Action on Railtrack Up to 20/6/2003</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>RT need to determine strategy for the use of simulators for signaller training, including refresher training. As part of future procurement RT will consider appropriate technologies.</p> | <p>RT to develop a strategy and implementation plan for signalling simulators by June 2002</p> |
| <p>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.</p> <p>Action on Railtrack, Up to 20/6/2002</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>Framework to be determined at HQ for Zones to manage delivery. Individual TOCs to consider with the appropriate RT Zone.</p> <p>See recommendation 11.</p> | <p>See Recommendation 11</p> |
| <p>Signallers' working conditions Cullen central recommendation</p> <p>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. Paragraph 12.17 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>RT have almost finalised a process for use by the Zones, with necessary ergonomic support. RS will support with relevant processes.</p> | <p>RT to complete review and make changes as necessary, by 20 December 2001. RT to complete ergonomic changes by June 2002.</p> |

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| <p>44. A supervisor should be employed on a continual basis to ensure that the workstations are operated in the most effective way. Paragraph 12.17 refers.</p> <p>Action on Railtrack Up to 20/6/2002</p> | <p>Industry have agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>Initiating investigation into the value of employing supervisors.</p> <p>EUKL assume this does not apply to low speed, empty stock movements with depot confines.</p> | <p>RT to evaluate situation at Slough IECC by December 2001 and implement the most effective way forward for the rest of the network by June 2002.</p> |
| <p>45. Signallers should take the opportunity from time to time to practise the controlling of train movements. Paragraph 12.18 refers.</p> <p>Action on Railtrack Up to 20/6/2002</p> | <p>Industry have agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>Work underway to strengthen training and competence assessment.</p> <p>Links to recommendation 41</p> | <p>The signallers should be in a position to demonstrate that they have experience of manually controlling trains, by 20 June 2002.</p> |
| <p>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. Paragraph 12.19 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>RT Guidance on managing Safety Critical Working Time Exceedances is not limited to signalling personnel, and the review will consider the recommendation for other safety critical staff.</p> | <p>RT to review and report to HSE, by 20 December 2001.</p> <p>HSE will consider the wider implications and report to HSC, February/ March 2002 with recommendations.</p> |
| IECC equipment (recommendations 47 and 48) | | |
| <p>Cullen central recommendation</p> <p>47. There should be a unique alarm for SPADs, which should sound until it is turned off. Paragraph 12.21 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> | <p>RT to implement the IECC upgrade 03 (with the unique SPAD alarm) for pilot operation at Slough by August 2002. As that timescale cannot be shortened, further development work for a simpler alarm system is being pursued with earlier implementation. RT to report progress by 20 December 2001.</p> |

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| <p>Cullen central recommendation 48. The speed with which signallers can take action to move points in an emergency should be improved. Paragraph 12.22 refers.</p> <p>Action on Railtrack Up to 20/6/2002</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> | <p>RT will consider the human factors associated with automatically reconfiguring displays in the event of an incident and will consider proposing including requirements in GK/RT0025 relating to the speed with which signalling system information can be accessed / displayed in an emergency. RT will take action to improve speed of response, by 20 June 2002.</p> |
| <p>Automatic controls (recommendations 49 and 50)</p> | | |
| <p>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. Paragraph 12.27 refers.</p> <p>Action on Railtrack Up to 20/6/2003</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>This is now covered by RGS GK/RT/0064 "Provision of overlaps, flank protection, and trapping" which mandates the process for the identification of SPAD mitigation measures, including flank protection.</p> | <p>RT to study the possibility of an automatic replacement of a signal to danger and report to HSE by 20 June 2003.</p> |

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| <p>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. Paragraph 12.28 refers.</p> <p>Action on Railtrack Up to 20/6/2003</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted. Several issues were raised:</p> <p>1) The concept of using CSR system to transmit an emergency stop duplicates TPWS. Hard to see any added value.</p> <p>2) Need to establish compatibility before modifying existing train describers to identify SPADs and which train has SPADed.</p> <p>3) Study the practicability of re-programming CSR so that a message over the TD interface showing that a specific train has SPADed, an emergency stop message is broadcast to that train. CSR systems have a limited life (RT have to hand back the CSR frequencies by 2005) and the cost benefit of doing this work now needs to be evaluated carefully.</p> <p>4) Consideration of the likelihood and risks associated with this and the possible ways that it could fail because the SPAD was not detected, detected late or falsely detected.</p> | <p>RT to complete the technical feasibility of this, by 20 June 2003.</p> |

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| Radio Communication (recommendation 51) | | |
| <p>Cullen central recommendation 51. There should be a national system of direct radio communication between trains and signallers. Paragraph 12.29 refers.</p> <p>Action on Railtrack, TOCs Up to 20/6/2003</p> | <p>Industry has agreed that RT will take the lead. Recommendation accepted. Recommended timescale is not practical.</p> <p>GSM-R installation is the planned solution. It is unclear if Lord Cullen is advocating any interim arrangement (para 12.29 refers to CSR). If this is really what is meant then Lord Cullen appears to be saying replace NRN with CSR now. If this is a mistake for GSM-R then he is not.</p> <p>RT believes that this recommendation can be best delivered by the national fitment of the European mandated (and ORR funded for GSM-R voice) of GSM-R radio system. (RT preferred plan would be to continue to fit GSM-R, but to rearrange the programme such that NRN is replaced first and the CSR is kept operational for 2-3 years. Significant work will be needed to agree an achievable NRN replacement plan, GSM-R functionality voice and/or data).</p> <p>The implications of changes to timing and or the sequence of fitment must be brought together with the ERTMS / ETCS programme timetable recommended from the Joint Inquiry. ERTMS Programme Board/ Project team to work towards closer co-ordination of the ERTMS and GSM-R national roll-outs. ATOC Engineering Council to ensure that GSM-R implementation team considers this recommendation. Links with recommendation 85 and JI recommendation 25.</p> | <p>RT, working with ATOC, to provide a detailed plan to HSE by March 2002, with earliest possible fitment date.</p> |

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| Preservation of data (recommendation 52) | | |
| <p>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. Paragraph 12.30 refers.</p> <p>Action on Railtrack Up to 20/12/2001</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted.</p> <p>A comprehensive briefing for Zones is being prepared, listing all available data logging devices, and the precise actions that should be taken.</p> <p>It is also suggested that Signallers Special Instructions list the precise logging equipment available so that, post-incident, the signaller has a checklist to ensure complete securing and recovery.</p> | <p>RT to ensure that instructions in the event of an accident cover this, by 20 December 2001.</p> |
| Crashworthiness (Recommendations 53 to 60) | | |
| <p>Cullen central recommendation</p> <p>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. Paragraph 13.4 refers.</p> <p>Action on TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry have agreed that Porterbrook will lead for ROSCOs on HST and Angel Trains will lead for ROSCOs on bogie retention issue. Recommendation and timescale accepted.</p> <p>The ROSCOs will work with ATOC and RS. Some work has already been done by both Angel Trains and HSBC Rail, and the assessment should be complete with the timescale.</p> <p>EUKL assumes this does not apply to Eurostar trains</p> | <p>ROSCOs to provide detailed report to HSE, by June 2002.</p> <p>All parties involved in the work to implement these recommendations to take steps to alert each other of emerging issues.</p> <p>Although this was recommended in the Formal Inquiry report and at that time was found to be impracticable and not cost effective: Angel Trains will revisit enhanced measures for bogie retention, taking note of other more recent incidents and report to HSE June 2002.</p> |

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| <p>Cullen central recommendation 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. Paragraph 13.4 refers.</p> <p>Action on Railway Safety Up to 20/6/2002</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>This applies to all trains.</p> <p>Need to revisit issues taking account of feedback from recommendation 53.</p> | <p>RS will review the crashworthiness standard, by 20 June 2002.</p> |
| <p>Cullen central recommendation 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. Paragraph 13.5 refers.</p> <p>Action on TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry has agreed that Angel Trains will lead for ROSCOs. Recommendation and timescale accepted. Working with ATOC Engineering Council.</p> <p>Vehicle structural requirements are governed by RGS GM/RT2100 and this goes beyond these requirements. It is suggested that the scope of recommendations 54, 56 and 58 be extended to include the implications of retrospective application of any improved crashworthy standards.</p> <p>This applies to all trains.</p> <p>Note: the recommendation applies to Classes 165, 166 and possibly 465 and 466 which have similar body construction.</p> <p>A further study will be done to assess these issues and should be complete within the timescale.</p> | <p>Angel Trains to report to HSE by 20 June 2002.</p> |

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| <p>Cullen central recommendation 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.</p> <p>Action on Railway Safety Up to 20/6/2002</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>Retrospective action may be problematic for older vehicles taking account of costs and the residual life of the unit. ROSCOs will need to work with manufacturers.</p> <p>Research to be carried out. Recommendations for research arising from Ladbroke Grove inquiries have not been included in the research budget agreed by ORR; a revised budget request will be submitted.</p> | <p>RS to report in December 2001 on the programme to meet this recommendation following publication of its research theme strategy.</p> |
| <p>57. In the case of new vehicles constructed of aluminium, consideration should be given to:</p> <ul style="list-style-type: none"> i. the use of alternatives to fusion welding; ii. the use of improved grades of aluminium which are less susceptible to fusion weld weakening; and iii. the further development of analytical techniques. Paragraph 13.9 refers. <p>Action on ROSCOs, Manufacturers Up to 20/6/2003</p> | <p>Industry has agreed that Bombardier, for the manufacturers, will take the lead. Recommendation and timescale accepted.</p> <p>Ongoing research by The Welding Institute into the Friction Stir welding technique.</p> | <p>Bombardier to report to HSE by 20 June 2002</p> |
| <p>Cullen central recommendation 58. The revision of the Group Standard for crashworthiness should be pursued with particular reference to:</p> <ul style="list-style-type: none"> i. the design requirements for more realistic scenarios; ii. high speed accidents; and iii. dynamic verification testing. Paragraph 13.17 refers. <p>Action on Railway Safety Up to 20/6/2002</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>This applies to all trains.</p> <p>Research to be carried out. Recommendations for research arising from Ladbroke Grove inquiries have not been included in the research budget agreed by ORR; a revised budget request will be submitted.</p> | <p>RS to review and revise the Group Standard, by 20 June 2002 and co-ordinate any further research</p> |

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| <p>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. Paragraph 13.19 refers.</p> <p>Action on TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry have agreed that Angel Trains for ROSCOs will take the lead on seating and Porterbrook will lead on tables. Working with ATOC. Recommendation and timescale accepted.</p> <p>ATOC suggest that RS, HMRI and manufacturers should be added to those responsible. Recommendation to be considered by ATOC Engineering Council. Following the Southall Inquiry Report recommendation 44, ATOC established an MoU with RS and an industry wide "ATOC Vehicle Steering Group".</p> <p>Drafting of AV/ST9001 Vehicle Interior Crashworthiness is complete and consultation due in December 2001. The standard will apply to new and to existing vehicles during refurbishment. Because of the need to involve seat manufacturers, the timescale will be tight.</p> <p>EUKL will consider this as part of the Class 373 interior refurbishment project.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>Angel Trains and Porterbrook will consider enhanced security and report to HSE by June 2002.</p> |

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| <p>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. Paragraph 13.20 refers.</p> <p>Action on TOCs Up to 20/6/2002</p> | <p>Industry has agreed that TOCs will take the lead. Recommendation and timescale accepted. Proposals on how to take this forward to be considered at the ATOC Operations Council on 26 November 2001.</p> <p>GTRM believe this should only apply to passenger TOCs.</p> | <p>RS to commission and fund appropriate market research, taking account of the work done by ATOC and the views of RPC. Report to HSE by 20 June 2002.</p> |
| <p>Fire mitigation (Recommendation 61) Cullen central recommendation</p> <p>61. The following measures should be considered with a view to enhancing protection against fire:</p> <ul style="list-style-type: none"> i. a review of Group Standards in respect of improved crash resistance of fuel tanks; ii. consideration of the feasibility of reducing fuel inventories and of utilising smaller fuel tanks; iii. 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; iv. avoidance of placing fuel tanks in exposed and vulnerable locations; v. examination of the use of additives to reduce the propensity of a fuel to atomise; vi. the employment within fuel tanks of internal flexible linings or a honeycomb construction; vii. consideration of the most appropriate material for fuel tanks; and viii. recognition of the need for supporting theoretical and experimental work in respect of the foregoing. Paragraph 13.27 refers. <p>Action on Railway Safety, TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted. Currently covered within RGS framework and additional research to be carried out. Existing working group within HSL.</p> <p>ATOC will discuss with RS and the ROSCOs the scope and remit of a review of current Group Standards, the practicality of implementing them, the means of funding the review and due consideration should be given to applying any subsequent changes to Group Standards to existing fleets. The review should also consider the planned ATOC Vehicle Standard AV/ST9004.</p> <p>Amey Rail note that the fuel tanks on modern OTMs are above solebar level. A joint initiative with other IMCs/TRCs may be appropriate to review older machines and any proposed modifications.</p> <p>The three ROSCOs, TT, FGW, GNER, Bomardier, Alstom, HSL and a group of tank/system manufacturers are jointly funding a series of tests, co-ordinated by HSL, to evaluate improvements to the fuel tanks. The work has been delayed but will restart in August. EUKL does not intend to respond to this as they have a limited loco fleet with limited use.</p> | <p>RS to report to HSE by 20 June 2002</p> |
| <p>Passenger protection, evacuation and escape (Recommendations 66 to 88)</p> | | |

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| <p>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. Paragraph 14.3 refers.</p> <p>Action on HSE Up to 20/12/2001</p> | <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that all train operators, not just passenger TOCs, should consider this issue, where passengers and staff are found in the same space or are otherwise exposed to the same risks.</p> <p>HEX will incorporate this in transitional changes as part of Safety Case Regulations 2000.</p> | <p>Action complete. Railway Safety (Miscellaneous Amendments) Regulations 2001 came into force on 24 October 2001.</p> |
| <p>63. The provisions in the schedule as to evacuation and escape should be supported by adequate guidance from the HSE. Paragraph 14.3 refers.</p> <p>Action on HSE Up to 20/6/2002</p> | <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>HSE to publish additions or revisions to the existing guidance, by 20 June 2002.</p> |
| <p>64. The code of practice on public information on train safety and emergencies should be kept up to date. Paragraph 14.6 refers</p> <p>Action on ATOC</p> | <p>Industry has agreed that ATOC will take the lead. Recommendation accepted.</p> <p>ATOC Operations Council will ensure that their Guidance Note GN005 'Communication of Safety Related Information to Passengers' is kept up to date and is in line with HSE's Railway Safety Principles and Guidance and any future guidance.</p> <p>GTRM believe this should only apply to passenger TOCs.</p> | <p>ATOC to review and revise as necessary the code of practice in the light of HSE's guidance by June 2002. RPC and LTUC should also be consulted. RS to consider incorporation into a RGS.</p> |

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| <p>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. Paragraph 14.8 refers.</p> <p>Action on ATOC Up to 20/6/2002</p> | <p>Industry has agreed that ATOC will take the lead. Recommendation and timescale accepted.</p> <p>ATOC suggest that RS should also be involved. A joint review on behalf of ATOC's Operations and Engineering Councils, in July, will consider ATOC Guidance Note GN005 'Communication of Safety Related Information to Passengers'. Following the review, ATOC will ensure that AV/ST9002 and 5 incorporates best practice contained in GN005, as will any later initiatives which seek to standardise the provision of safety information and evacuation and escape procedures. ATOC will seek to accelerate the production of AV/ST9002 and 5.</p> <p>EUKL has an international client base and will need to ensure that the solution is appropriate.</p> <p>GTRM believe this should only apply to passenger TOCs.</p> | <p>ATOC to report on the scope of standardisation by March 2002. This should include feasible proposals, together with an action plan. RPC should be consulted.</p> |

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| <p>66. A system should be established for the collection of human factors information pertinent to issues of passenger safety following rail accident. Paragraph 14.8 refers.</p> <p>Action on ATOC</p> | <p>Industry has agreed that ATOC will take the lead. Recommendation accepted.</p> <p>ATOC will liaise with RS and bring to the attention of ATOC operations and engineering councils. RS to be included within SMIS developments. RS note that this recommendation does not apply to SMIS developments, based on paragraph 4.18 and Prof Galea's report.</p> <p>ATOC will review all future significant rail accidents, and the national report from CIRAS, identifying any human factors information pertinent to passenger safety following rail accidents, bringing these factors to the attention of ATOC Operations Council and Engineering Council as appropriate.</p> <p>GTRM believe this should only apply to passenger TOCs.</p> | <p>ATOC, in conjunction with RS, will establish a system for the collection of human factors information and report to HSE by June 2002.</p> |

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| <p>67. Passengers should be given general safety advice both before and after they have boarded their train. Paragraph 14.14 refers.</p> <p>Action on TOCs Up to 20/12/2001</p> | <p>Industry has agreed that TOCs will take the lead. Recommendation and timescale accepted. ATOC suggest that RS should be involved.</p> <p>A joint review on behalf of the Operations and Engineering Councils will be conducted in July to consider ATOC Guidance Note GN005 'Communication of Safety Related Information to Passengers'. They will then ensure close liaison on any subsequent initiatives which seek to standardise the provision of safety information and evacuation and escape procedures.</p> <p>EUKL will examine use of safety cards and announcements as a first step.</p> <p>FGW will trial a station safety point with posters and a video. Video produced jointly with TT and introduced at Reading from May 2001.</p> <p>GTRM believe this should only apply to passenger TOCs.</p> | <p>All passenger TOCs to report their current individual policy and practices by December 2001 to HSE.</p> <p>ATOC to review their existing guidance and reissue as necessary, by 20 December 2001.</p> <p>RPC and LTUC to be consulted.</p> |

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| <p>Cullen central recommendation 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. Paragraph 14.14 refers.</p> <p>Action on ATOC Up to 20/12/2001</p> | <p>Industry has agreed that ATOC will take the lead. Recommendation and timescale accepted.</p> <p>A joint review on behalf of the Operations and Engineering Councils will be conducted in July to consider ATOC Guidance Note GN005 'Communication of Safety Related Information to Passengers'. This will determine if the scope of the workstreams already completed or planned through the ATOC Vehicle Standards Steering Group Standards fully encompass the issues covered by GN005.</p> <p>Following the review, ATOC will ensure that AV/ST9002, 3 and 4 incorporates best practice contained in GN005, as will any subsequent initiatives which seek to standardise the provision of safety information and evacuation and escape procedures.</p> <p>ATOC will seek to accelerate the production of AV/ST9002, 3 and 4.</p> <p>GTRM believe this should only apply to passenger TOCs.</p> | <p>ATOC to seek expert assistance on and promulgate general safety advice by December 2001.</p> <p>See recommendation 67.</p> |

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| <p>Cullen central recommendation 69. The provision on board of explanatory information about the emergency facilities of individual trains is endorsed. Paragraph 14.14 refers.</p> <p>Action on TOCs Up to 20/12/2001</p> | <p>Industry has agreed that TOCs will take the lead. Recommendation and timescale accepted.</p> <p>A joint review on behalf of the Operations and Engineering Councils will be conducted in July to consider ATOC Guidance Note GN005 'Communication of Safety Related Information to Passengers'. This will determine if the scope of the workstreams already completed or planned through the ATOC Vehicle Standards Steering Group Standards fully encompass the issues covered by GN005.</p> <p>Following the review AVSG to ensure that AV/ST9005 / 2 and GM/RT2177 incorporates best practice contained in GN005, as will any subsequent initiatives which seek to standardise the provision of safety information with respect to emergency facilities.</p> <p>AVSG will seek to accelerate the production of AV/ST9005 / 2.</p> <p>EUKL will examine existing information in on-board magazine and consider use of safety cards and announcements.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>All passenger TOCs to report to HSE their individual policy and practices by December 2001.</p> <p>ATOC to review their existing guidance and report on action needed by 20 December 2001. RPC and LTUC should be consulted.</p> |

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| <p>Cullen central recommendation 70. The use of on-board announcements to draw attention to safety information is endorsed. Paragraph 14.16 refers.</p> <p>Action on TOCs Up to 20/12/2001</p> | <p>Industry has agreed that TOCs will take the lead. Recommendation and timescale accepted.</p> <p>A joint review on behalf of the Operations and Engineering Councils in July to consider ATOC Guidance Note GN005 'Communication of Safety Related Information to Passengers'. This will determine if the scope of the workstreams already completed or planned though ATOC fully encompass the issues covered by GN005.</p> <p>Following the review, ATOC to ensure that AV/ST9006 incorporates best practice contained in GN005, as will any subsequent initiatives which seek to standardise the provision of safety information with respect to on-board announcements</p> <p>ATOC will seek to accelerate the production of AV/ST9006.</p> <p>Chiltern feels that visual information should be developed where reasonable, on suburban stock to avoid repetition of announcements.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>All passenger TOCs to report to HSE their individual policy and practices by December 2001.</p> <p>ATOC to review their existing guidance and report on action needed by 20 December 2001.</p> <p>See recommendation 67</p> |

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| <p>71. The requirement for emergency signs to be luminous should be made retrospective. Paragraph 14.18 refers.</p> <p>Action on TOCs, ROSCOs Up to June 2002</p> | <p>Industry has agreed that TOCs will take the lead. Recommendation and timescale accepted.</p> <p>ATOC and the ROSCOs suggest that to ensure consistent application across the fleet recommendation 73 needs to be completed before recommendations 72 and 71. They will all be led by ATOC, working closely with RS, who will do the research as part of 73. The timescale for 73 will be accelerated to be completed within 12 months. Recommendations 71 and 72 are effectively sub-sets of 73. The output from all three recommendations should be fed into the ATOC steering group.</p> <p>A joint review on behalf of the Operations and Engineering Councils in July to consider ATOC Guidance Note GN005 'Communication of Safety Related Information to Passengers' will determine if the scope of the workstreams already completed or planned through the ATOC Vehicle Standards Steering Group Standards fully encompass the issues covered by GN005.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>All passenger TOCs, and ROSCOs, to report to HSE their individual policy and practices by December 2001.</p> <p>ATOC to review their existing guidance and report on action needed by 20 December 2001.</p> <p>See recommendation 67.</p> |

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| <p>Cullen central recommendation 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. Paragraph 14.19 refers.</p> <p>Action on TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry has agreed that TOCs will take the lead. Recommendation and timescale accepted.</p> <p>A joint review on behalf of the Operations and Engineering Councils in will consider ATOC Guidance Note GN005 'Communication of Safety Related Information to Passengers'.</p> <p>The review will determine if the scope of the workstreams already completed or planned though the ATOC Vehicle Standards Steering Group Standards fully encompass the issues covered by GN005.</p> <p>Following the review AVSG to ensure that AV/ST9005 incorporates best practice contained in GN005, as will any subsequent initiatives which seek to standardise the provision of safety information that includes the provision of "pictograms" where appropriate. AVSG will seek to accelerate the production of AV/ST9005.</p> <p>GTRM believe this should only apply to passenger TOCs.</p> | <p>All passenger TOCs to report to HSE their individual policy and practices with a feasibility report and action plan by March 2002, for implementation by June 2002.</p> <p>ATOC to review their existing guidance and report proposed action by 20 December 2001.</p> <p>See recommendation 67.</p> |

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| <p>73. There should be research with the aim of arriving at a system of signage which is common to all trains in Great Britain. Paragraph 14.20 refers.</p> <p>Action on ATOC Up to 20/6/2003</p> | <p>Industry has agreed that ATOC will take the lead. Recommendation accepted. Links to recommendation 78.</p> <p>ATOC suggest that the timescale should be reduced to up to 12 months.</p> <p>EUKL is an international operation which complies with UIC Regulations. It is probable that they could not comply with a UK domestic only requirement.</p> <p>RIAC propose that this recommendation should apply to non-RT passenger operations, eg Heritage, light rail.</p> | <p>ATOC will consider their Guidance Note GN005 'Communication of Safety Related Information to Passengers', to determine if the scope of the workstreams already completed or planned through the ATOC Vehicle Standards Steering Group Standards fully encompass the issues covered by GN005, by 20 June 2003.</p> <p>RS to commission and fund the market research based on ATOC specification and report progress to HSE by December 2001.</p> <p>ATOC should consult RPC and LTUC and then co-ordinate a national roll-out plan to deliver common signage to all trains in GB, by 20 June 2003.</p> |
| <p>74. Research should be carried out into the means of safeguarding emergency lighting systems from disablement by the forces involved in sudden deceleration. Paragraph 14.21 refers.</p> <p>Action on ROSCOs Up to 20/6/2003</p> | <p>Industry has agreed that HSBC will take the lead. Recommendation accepted.</p> <p>Recommendation 74 will need to be completed before a mechanism to provide artificial illumination required for recommendation 78.</p> <p>Work should be completed well within the 2 year timescale and will link to recommendation 78.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>HSBC will build on their existing research on this issue and report to HSE by June 2003.</p> |

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| <p>75. The provision of “snap wands” should be considered as a supplementary means of providing lighting in an emergency. Paragraph 14.22 refers.</p> <p>Action on TOCs Up to 20/12/2001</p> | <p>Industry has agreed that TOCs will take the lead. Recommendation and timescale accepted. RS to support.</p> <p>ATOC Engineering Council (AVSG) to review the FGW “Minehead trials” and Thameslink experience to evaluate how the provision of such devices can be extended without increasing risk due to potential misuse. GNER believe reference should be made to the work carried out after the Maidenhead incident which did not recommend use of snap wands</p> <p>EUKL trialled this equipment but rejected use of ‘snap wands’ as impractical and do not intend to pursue.</p> <p>FGW have agreed fitment for all fleet except class 180, 165/6 and 158 - where they will be trialled. Scotrail uses snap-wand for overnight services and will evaluate use for day services.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> <p>HSBC state that a fully workable solution installed within the timescale may require a derogation.</p> | <p>All passenger TOCs to review steps they have already taken and propose a way forward to HSE by December 2001.</p> |

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| <p>Cullen central recommendation 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:</p> <ul style="list-style-type: none"> i. the coach should be fitted instead with opposite- handed internal doors; ii. the coach should be fitted instead with double leaf internal doors; or iii. a panel in the door should be rendered removable so as to enable passengers to pass through. <p>The above is subject to the proviso 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. Paragraph 14.28 refers.</p> <p>Action on TOCs, ROSCOs</p> | <p>Industry has agreed that Angel Trains will take the lead. Recommendation accepted.</p> <p>ATOC Standards schedule includes AV/ST9002 “Emergency Egress – Provision of Equipment and Escape Route”. It supplements GM/RT2457 “Structural Requirements for Doors and Gangways on Railway Vehicles” specifically to deal with egress in an emergency. ATOC will review the schedule to ensure that it incorporates the lessons of Ladbroke Grove and Hatfield and will seek to accelerate the production of the proposed standard.</p> <p>Angel Trains will build on the earlier work by FGW and Interfleet. Timescale for completion is very tight and additional time may be required.</p> <p>EUKL challenge this recommendation. Class 373 has been designed and constructed to meet Channel Tunnel (Fire) requirements. Believe no change is necessary. Any change enforced by this would require detailed risk assessment against the Channel Tunnel requirements to ensure there is no conflict.</p> <p>FGW will ensure all HST and class 180 internal doors meet this. Turbos and class 158’s do not have this problem. FGW will discuss Mark II vehicle options with HSBC.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>Angel Trains, working with the other ROSCOs, will produce a detailed plan for each TOC for December 2001 and for implementation by 31 December 2003.</p> |

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| <p>Cullen central recommendation 77. The staff-only doors on all trains should have an override device to enable them to be used by passengers in an emergency. Paragraph 14.29 refers.</p> <p>Action on TOCs, ROSCOs Up to 20/12/2001</p> | <p>Industry has agreed that ATOC will take the lead. Recommendation and timescale accepted. RS will be consulted as the work may impact on RGS GM/RT2161.</p> <p>Angel Trains point out that the recommendation needs very careful consideration before implementation. There is real concern that passenger access to drivers cabs, in particular, could present a far greater risk than the risk addressed. Propose that the risks are fully considered and evaluated before a decision is made. The risk assessment could be done within 6 months but any subsequent fitment of override devices will probably take at least another 12 months.</p> <p>ATOC Engineering Council (AVSG) to review the scope of AV/ST9002 to see if this can be extended to include this recommendation. A careful consideration of the practicalities and residual risk will also have to be completed.</p> <p>EUKL state that Class 373 has been designed and constructed to meet the requirements of the Inter-governmental security and immigration agencies. FGW will write to TT to confirm their planned action for Turbos, FGW engineers to review. Most Scotrail fleets have this feature, further risk review to be done. GTRM believe this should only apply to passenger TOCs.</p> | <p>ATOC to produce risk analysis and feasibility action plan for fitment and recommendations for the way forward by December 2001.</p> |

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| <p>Cullen central recommendation 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. Paragraph 14.34 refers.</p> <p>Action on TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry has agreed that TOCs will take the lead. Recommendation accepted.</p> <p>RS to commission fund the market research. ATOC Operations Council and ATOC Engineering Council (AVSG) will maintain close liaison to ensure that AV/ST9005 incorporates best practice contained in GN005 and to consider this recommendation in relation to recommendations 71, 72 and 73 In regard the mechanisms to provide artificial illumination recommendation 74 will need to be completed first.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> <p>HSBC state that the illumination will need more time to develop and timescale should be extended to 2 years, links with recommendation 74.</p> | <p>TOCs, in association with ROSCOs, in respect of each vehicle, will report to HSE the development of generic pictograms, BY 20 June 2002. Report to include roll out plans.</p> |

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| <p>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. Paragraph 14.35 refers.</p> <p>Action on TOCs Up to 20/12/2001</p> | <p>Industry has agreed that TOCs will take the lead. Recommendation and timescale accepted.</p> <p>ATOC to review the current inspection and maintenance practices for emergency equipment including ladders and current ladder security arrangements to improve accessibility/ease of release in an emergency without increasing the risk of improper use.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue. HEx believe that wording could lead to extensive train preparation time. Need quick release mechanism and assurance, security tag, that ladder is in place when train prepared.</p> | <p>TOCs to amend instructions and confirm to HSE what systems they have in place, by 20 December 2001.</p> |

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| <p>Cullen central recommendation 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. Paragraph 14.46 refers.</p> <p>Action on TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted.</p> <p>ATOC Operations Council and ATOC Engineering Council (AVSG) will maintain close liaison to ensure that AV/ST9005 and/or 3 incorporates best practice contained in GN005 and to consider this recommendation in relation to recommendations 71, 72 and 78.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>RS to report to HSE, with proposals for action, by 20 June 2002.</p> |

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| <p>Cullen central recommendation 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. Paragraph 14.46 refers.</p> <p>Action on TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry has agreed that RS will take the lead in establishing policy. Recommendation and timescale accepted.</p> <p>RS have agreed to lead on this to ensure that the risks are fully recognised and evaluated, as there are a number of concerns over the possible misuse of removable windows. RGS GM/RT2456 "Structural Requirements for Windscreens and Windows on Railway Vehicles" applies. RS has confirmed it is ready to commission research and risk assessment into aspects of emergency egress including windows, hammers and hatches.</p> <p>The ATOC Engineering Council, together with the ROSCOs will consult RS to initiate research to review current assumptions concerning emergency egress from vehicles in line with the recommendation.</p> <p>GTRM believe this should only apply to passenger TOCs RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>RS to report to HSE, with action plan, by 20 June 2002.</p> |

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| <p>Cullen central recommendation 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.</p> <p>Action on TOCs, ROSCOs Up to 12 months</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted. Supported by ATOC and ROSCOs.</p> <p>ATOC Engineering Council, together with the ROSCOs will consult RS to initiate research into the practicality of incorporating the release of emergency hammers into the passenger alarm system. These issues will be included in the scope of the research and risk assessment to be commissioned by RS. RS have agreed to lead on this as part of a wider research package into escape from trains.</p> <p>FGW do not propose to adopt this for HSTs, sleepers, Mark II vehicles or class 180 trains. Class 158 trains have hammers behind emergency alarms.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>RS will review practicability of doing this where not already fitted, by 20 June 2002.</p> |

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| Recommendation | Industry initial response | Action plan |
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| <p>Cullen central recommendation 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. Paragraph 14.54 refers.</p> <p>Action on TOCs, ROSCOs, Manufacturers Up to 20/12/2001</p> | <p>Industry has agreed that RS will take the lead. Recommendation and timescale accepted. Supported by ATOC and ROSCOs.</p> <p>ATOC, together with the ROSCOs, Vehicle Manufacturers will consult RS to initiate a feasibility and risk assessment into the provision of roof hatches into passenger vehicles.</p> <p>These issues will be included in the scope of the research and risk assessment to be commissioned by RS. Benefits and risks associated with roof hatches need to be fully understood and evaluated, taking account the likelihood of misuse.</p> <p>GTRM believe this should only apply to passenger TOCs.</p> | <p>RS to report on feasibility and risk assessment to HSE by 20 December 2001.</p> |

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| <p>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. Paragraph 14.62 refers.</p> <p>Action on TOCs Up to 20/6/2002</p> | <p>Industry has agreed that TOCs will take the lead. Recommendation and timescale accepted.</p> <p>ATOC will consider this as part of a review of ATOC Guidance Note GN003 'The Training of On Train Staff in On Train Emergency Procedures'.</p> <p>RS are apparently carrying out a risk assessment at the moment and will lead on this work with support as appropriate from TOCs and ROSCOs. RS support the principal, have some reservations with regard to training in protection measures given to all staff; roles for staff need to be clarified. Thameslink want clarification as to the 'protection' duties required here - needs to be clearly defined. Change of responsibilities for some staff may class them as safety critical staff with problems for recruitment and retention. How far do they go in making the changes and changes need to be risk assessed.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> <p>GNER currently training all on-board staff, but concerned as it is likely to increase the risk to staff.</p> | <p>TOCs to have completed training for all on-board staff, based on ATOC guidance. TOCs to have arrangements in place for refresher training for all such staff, by 20 June 2002.</p> <p>ATOC to review GN005 and report the need for any changes by 20 December 2001.</p> |

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| <p>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. Paragraph 14.65 refers.</p> <p>Actions on Railtrack, TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry has agreed that ATOC will take the lead. Recommendation and timescale accepted.</p> <p>Not applicable to EUKL. GTRM believe this should only apply to passenger TOCs.</p> <p>Links to recommendation 51</p> | <p>ATOC Engineering Council, together with RT, the ROSCOs and RS will review the current Radio Systems (NRN, CSR) to consider the practicality of introducing enhancements to enable passengers (in an emergency) to contact signallers. The review should also consider the facilities offered by GSM-R. A risk assessment and evaluation of DOO currently underway by ERM. Final report due September 2001. ATOC to report on proposed action to HSE by 20 December 2001.</p> |

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| <p>Cullen central recommendation 86. The feasibility of a “roaming” communication system for train staff should be examined. Paragraph 14.68 refers.</p> <p>Action on TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry has agreed that ATOC will take the lead. Recommendation and timescale accepted.</p> <p>ATOC, together with the ROSCOs will approach RS to initiate research into the availability and suitability of appropriate systems, eg “Blue Tooth”. Such systems should not interfere with existing train control and communication systems.</p> <p>RS ready to commission research into on-board ‘roaming’ communications - In the longer term GSM-R will provide this facility – see recommendation 51.</p> <p>EUKL compliant - radios in use within the train and mobile phones to shore.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> <p>GNER will give ATOC feedback on their trials of this.</p> | <p>ATOC to report to HSE with proposals for action, by 20 June 2002.</p> |

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| <p>87. The possibility of remote broadcasting from outside the train, where it is not already available, should be investigated. Paragraph 14.68 refers.</p> <p>Action on Railtrack, TOCs, ROSCOs Up to 20/6/2002</p> | <p>Industry has agreed that RT will take the lead. Recommendation and timescale accepted. ATOC suggest that RS should be involved in this. RT note that this facility is already available where CSR radio fitted in former SE region and Strathclyde. CSR provides this on DOO (P) now, specification for GSM-R needs to include this function. ATOC Engineering Council, together with Railtrack, the ROSCOs and Railway Safety initiate a review of current Radio Systems (NRN, CSR) to identify the practicality of introducing enhancements to enable external broadcasts to a train in an emergency. The review should also consider the facilities offered by GSM-R.</p> <p>GTRM believe this should only apply to passenger TOCs. RIAC propose that this should apply wherever people are travelling, ie including where the workforce is travelling and suggest that other train operators, not just passenger TOCs, should consider this issue.</p> | <p>RT to report to HSE with action plan, by 20 June 2002.</p> |

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|--|---|--|
| <p>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. Paragraph 14.74 refers.</p> <p>Action on ATOC Up to 20/12/2001</p> | <p>Industry has agreed that ATOC will take the lead. Recommendation and timescale accepted.</p> <p>RGS GM/RT2177 "Emergency and Safety Equipment and Signs on Rail Vehicles" applies.</p> <p>EUKL trains have fire extinguishers available in all passenger accommodation. And Train manager carries a first aid kit.</p> <p>GTRM believe this should only apply to passenger TOCs.</p> | <p>Each passenger TOC will ensure that the equipment will be available for use by passengers, in emergencies.</p> <p>ATOC will review the Group Standard and current operating practice to determine if unrestricted access to emergency equipment is practicable and will not introduce additional safety risks due to misuse of emergency equipment and report by 20 December 2001.</p> <p>LUL to review their practice with respect to such equipment, by 20 December 2001.</p> |
| <p>Cullen central recommendation</p> <p>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. Paragraph 15.7 refers.</p> <p>Action on HSC</p> | | <p>Arrangements in place to carry out the review by December 2001 and publication of the first review in January 2002. This report is a first step. Further reports will follow.</p> |