

Transport Safety Commission

Advance submission by

Carolyn Griffiths, Chief Inspector, Rail Accident investigation Branch

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Purpose of this paper

1. This paper provides a short outline of the following topics that may be of interest to the Transport Safety Commission's Inquiry.
 - Why the Rail Accident Investigation Branch (RAIB) was established and relevant legislation.
 - Key features of the RAIB.
 - Considerations necessary in setting up the RAIB.

Why the RAIB was established and relevant legislation

2. The recommendation to create an independent accident investigation branch for railways, similar to the existing air and marine branches, was made by Lord Cullen in his public inquiry into the major rail accident at Ladbroke Grove in 1999.
3. Formerly, investigations, other than the industry's own, were undertaken by the safety regulator (Her Majesty's Railway Inspectorate (HMRI) or in exceptional circumstances at a Public inquiry. The HMRI was not entirely independent of the industry in that it approved equipment and operating principles and set standards.
4. Additionally, publication of HMRI's reports were usually delayed as the sub-judice rule prevented publication until any court action was completed, and the industry did not make its own reports public. In some instances, a public inquiry was held, which led to further delays and high costs.
5. The RAIB was set up to carry out independent accident investigations and make public its investigation reports, which did not consider blame or liability
6. The RAIB started operations in October 2005.

Legal framework

7. The RAIB was established by the Railways and Transport Safety Act 2003 (2003 Act) as the independent railway accident investigation body for the UK. It sets out:
 - Aims of RAIB (to improve the safety of railways and to prevent railway accidents and incidents).
 - Types of accident that must be investigated and provides for the discretion to investigate others types of accident or incident.
 - Purpose of the investigation (to determine what caused the accident).
 - Requirement that RAIB shall not consider or determine blame or liability.
 - Powers of inspectors to enter railway property, land or vehicles, seize anything relating to the accident and make records, require access to and disclosure of records and information, require people to answer questions and provide information about anything relevant to the investigation, and certify the truth, accuracy or authenticity of statements made.
 - Areas that the regulations may cover (the enabling aspect of the 2003 Act).
8. The Railways (Accident Investigation and Reporting) Regulations 2005 (2005 Regulations) implement the 2003 Act. They include procedures for the notification requirements, dealing with evidence and publishing reports and recommendations. They set out the legal status of the RAIB and its investigations and the requirement that they must independent from any judicial type investigation. They also identify the type of accident to be excluded (eg suicides or trespass).

9. Together, these also implement the requirements of the European Railway Safety Directive, 2004/49/EC.

Key features of the RAIB

10. The purpose behind RAIB's investigations is to ensure that safety lessons are identified and communicated to relevant parties as soon as possible. In carrying out its investigation activities the RAIB must avoid unnecessary delay in returning the accident site back to the railway operators.
11. In respect of accident or incident investigation, the RAIB is independent of the railway industry, and regulatory and prosecution bodies. It is administratively part of the Department for Transport, but is functionally independent. The Chief Inspector reports directly to the Secretary of State on matters relating to accident investigation.
12. The investigation reports, which are made public, describe the causes and circumstances of the railway accidents or incidents, identify any other factors that contributed to the event or made the outcome worse, and include evidence based safety recommendations aimed at reducing the likelihood of reoccurrence.
13. The recommendations are mainly addressed to the Office of Rail Regulation (ORR), who took over the safety authority role from HMRI. They are required to ensure that the recommendations are considered and where appropriate acted upon and to then report back to the RAIB on the measures taken or being taken and the timescales, or the reasons why no measures are being taken. The RAIB publishes the status of implementation of the recommendations in its annual report.
14. The RAIB has a high degree of discretion in deciding which of the accidents and incidents that are notified to it will be investigated and total discretion on how it will investigate. To assist this it developed a process and criteria for deciding when to investigate (eg carrying out preliminary examinations (PE) and then deciding, on the basis of the evidence collected during PE, whether further investigation would be likely to lead to new formal recommendations for the improvement of safety - in which case a full investigation would then take place).
15. In addition, in forming the decision on whether to conduct a full investigation, the following factors will also be taken into account:
- The actual or potential seriousness of the accident or incident.
 - Whether the accident is part of a series of accidents or accidents involving similar equipment, location, or causal factors.
 - The potential for recurrence.
 - The potential for material improvements in safety arising from an independent investigation by the RAIB.
16. In 2013, the RAIB received 360 notifications from industry relating to the occurrence of accidents or near- misses; these resulted in 51 preliminary investigations (immediate fact finding reconnaissance) and resulted in 26 full investigations.
17. Around 94% of the RAIB's recommendations are implemented. The RAIB's scope of investigation covers virtually all the different types of railway in the UK with a track gauge of greater than 350 mm. Recommendations can be made to address any aspect where the RAIB has evidence to justify a need for a change eg technical, policy, standards etc and to any organisation that the RAIB believes can bring about the appropriate change to improve railway safety. Besides rail operators this has included the ORR, the HSE; other Government bodies such as the DfT, Local Councils; emergency response organisations, and the Rail Safety and Standards Board.
18. The RAIB employs 26 professional investigators including the Chief Inspector and Deputy Chief Inspector and 16 support staff including its publications team. The RAIB's budget is £ 4.8 m.
19. The Branch operates out of two bases, one in Farnborough and one in Derby. Two locations near good transport links are necessary for quick response to accident locations and for recruitment of staff with appropriate skills.

20. RAIB inspectors have the legal powers to take witness statements but not share any details of contents or details of witnesses (legislative bar).

Setting up a new investigation body: key issues

Development of the Regulations

21. It was essential to develop a fairly detailed definition of the Branch's mode of operations in order to establish the legal provisions that needed to be included in the Regulations. The Regulations have been a successful basis for the Branch's operations since start of operations.

Defining and agreeing interfaces with other organisations

22. The RAIB's legislation does not change the duties of the other statutory investigators. The RAIB has negotiated Memorandums of Understanding (MoU) with police, ORR, and Crown Prosecution Service. These agreements recognise that all parties have separate duties to perform in relation to investigating rail accidents and incidents and that each party in fulfilling these duties should appropriately take into account the respective roles and responsibilities of the other parties.

23. Primacy of safety investigation – the MoU recognises that, in the public interest, it would require indications of serious criminality¹ to justify a criminal investigation taking precedence over a RAIB safety investigation whose results will be made public. This means that the RAIB normally assumes lead responsibility for the investigations.

24. The 2003 Act also provides for resolution of potential conflict situations during investigations by giving the RAIB Chief Inspector the power to determine questions about the desirability of actions that others propose to take. The effectiveness of the MoU, and the good working relationships with the other signatories, has meant that this has never had to be invoked.

Staffing

25. The number of staff in the Branch has been based on the following considerations:

- The predicted number and type of investigations and associated workload.
- Need to be able to minimise the time before the railway could be returned to operation. Inspectors are on call 24/7 at both the Derby and Farnborough offices and are required to mobilise within 30 minutes of notification of deployment.
- Need to be able to receive, decide and respond appropriately to notifications of accidents 24/7.
- Need to have sufficient resources to be able to maintain a site presence for greater than one day for large investigations.
- Need to be able to initially deploy two inspectors to each accident.
- Need to be able to respond to two simultaneous serious accidents.

Working approach

26. The main issues considered in deciding how RAIB would work were:

- Development of RAIB policy, procedures and guidance to define (and test) its mode of operations, and to quality assure, as far as possible, the interfaces with other organisations. This was particularly important as the RAIB had no real predecessor and would consist of professionals from different backgrounds.
- The UK was that first member state to fully mobilise an independent rail accident investigation branch as this arose from the Ladbroke Public Inquiry and not the EU Railway Safety Directive

¹ "Serious criminality" is defined for the purposes of this MoU as the crimes of murder, culpable homicide and corporate manslaughter, and any criminal act which result in a terrorist incident, deaths, multiple casualties, serious injury and/or other serious consequences, e.g. derailment of a train, or a train collision. This does not include criminal offences which properly fall to be investigated by the Office of Rail Regulation.

2004. Consequently, there was no suitable EU guidance on such development and the RAIB took account of practices from the USA, Australia, Canada as well as the MAIB and AAIB.

- This has since been developed into a structured and evidence driven approach to investigation, which includes a systematic framework of peer review rather than a pre-determined step by step process or a check list driven model.

Recruiting and training

27. The issues considered in recruiting and training RAIB inspectors were:

- Need to have competent investigators (ie a good knowledge of the railway industry and of investigation techniques) who would be qualified to degree level or have equivalent professional experience, and be a member of a relevant professional institution.
- Need for inspectors to have good interpersonal, organisational and problems solving skills along with an analytical, methodical and results-focused approach.
- Typically inspectors will have a background in:
 - research, design, manufacture, testing, commissioning or maintenance of railway signalling, infrastructure or rolling stock; or
 - rail operations management; or
 - investigation in a similar industry or
 - human factors.
- RAIB's approach was to recruit inspectors with experience in the industry and detailed knowledge in one of the five key technical areas: operations; signalling; traction & rolling stock; infrastructure; or investigation.
- A detailed and structured training plan (aims and objectives) was then developed, taking account of the different rail disciplines and different types of railway, with aim of bringing all inspectors up to a common understanding, which would enable them to deploy to any type of railway accident and start an effective investigation. This included training in investigative skills – eg accident site management, law, evidence gathering/ handling/ and testing techniques, witness interviewing, and causal analysis. The aim being to equip inspectors with the underpinning knowledge, skills, experience, and confidence to investigate any type of railway accident or incident and where necessary to commission and manage specialist contractors.
- In total, the training, which with some improvements is repeated for new inspector today, consisted of 48 courses taking a total of 130 days during the first year of employment. The training is delivered from an investigatory perspective, with a focus on the practical role of the railway investigator.
- At the end of the training, inspectors are required to demonstrate knowledge, competencies and experience to the required standard.
- As RAIB gained experience it took aspects of the technical training in-house and it has regularly hosted staff from other rail accident investigation branches on its courses.

Equipment

28. The main issues considered in deciding the equipment needed by RAIB were:

- Means of transport – types and number of specially equipped vehicles for deployment to accident sites.
- Types of equipment needed on vehicles for independent investigation work.
- Types of equipment needed in RAIB workshops for independent investigation work.
- Need for suitable personal protective equipment for each inspector and individual investigation related equipment (eg cameras, Dictaphone, laser measuring tools).

- Need to be able to obtain expert assistance if necessary and require others to assist in investigations where necessary.

Inspector competence management and Branch continuous development

29. The main issues considered in enabling RAIB to function as a competent organisation were:

- The development of a competency management process that defined the levels of core knowledge of railway technology and investigation processes and techniques to be achieved through the initial training programme and subsequently maintained on an ongoing basis.
- Regular refresher/update training to ensure that individual inspectors keep abreast of developments in railway technology and operations, and practical training to maintain competency in key investigative techniques and use of related equipment. This includes updates from the industry on substantive changes that are being made in operations or technology.
- Reviews at the end of every investigation to identify if there are any lessons to be learnt to help improve future investigations.
- Work with other accident investigation bodies to gather information about good practice.