



Rail Accident Investigation Branch

The Margam accident

The investigation of management assurance

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RAIB's three step process for the investigation of organisational factors

1. Examining how the Safety Management System was supposed to manage the risk, and why it failed to do so
2. Considering how the underlying organisational culture created the conditions that allowed the accident to happen
3. Reviewing how external organisations may have influenced either of the above

1

What were the relevant control measures?
How were they documented, understood and applied?

2

To what extent were the hazards and associated risk understood?

3

What mechanisms were in place to monitor and review the efficacy of the SMS?

4

How effectively was change managed?

5

How did the organisation learn from previous experience, and then use that experience to improve its safety arrangements?

6

Did the organisation have a culture that fostered openness, honesty and the sharing of safety information?

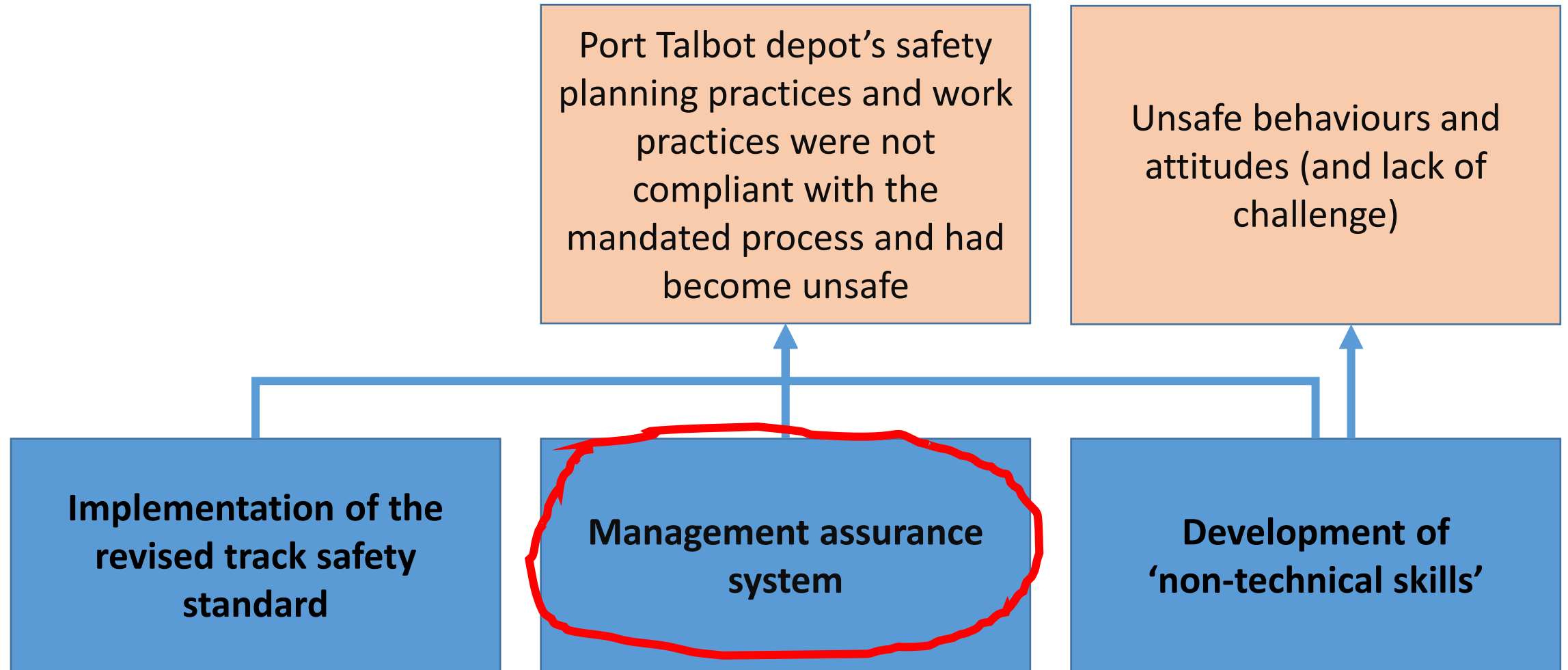
7

Was the quality of leadership or the corporate values a factor in the accident/incident?

8

Were there any wider systemic issues?

Causal analysis



3

What mechanisms were in place to monitor and review the efficacy of the SMS?

RAIB's approach to answering this question:

1. Understand the management assurance process
2. Gather the evidence needed to determine:
 - was the design of this process a factor?
 - was its implementation a factor?
3. Evaluation and analysis of the evidence (using standard causal analysis techniques)

Network Rail's management assurance process

Level 1 assurance ('self-assurance'):

- Local checking and audits were intended to provide assurance that risks were being controlled in accordance with company processes

Level 2 assurance ('corporate oversight')

- Audits and reviews conducted by persons independent from those with the responsibility of implementing the risk controls

Level 3 assurance ('Independent challenge and assurance of risk control policies')

- Findings reported to the Network Rail board.

Monitoring and review by Network Rail's senior management team



Level 1 assurance

Key evidence

- Review of key process documentation:
 - NR/L2/OHS/019, 'Safety of people at work on or near the line' (standard 019)
 - NR/L2/ASR/036, 'Network Rail Assurance Process'
 - NR/L3/MTC/MG0221, 'Management Self Assurance Procedure'
 - NR/L2/MTC/SE0117 'Planned Assurance Inspections and Site Surveillance'
- Extensive interviews at local and route level
- Records of audits and site surveillance carried out at local and route level
- Network Rail's 'deep-dive' review of the L1 assurance process (conducted in 2016/17)
- Outputs of level 2 audits conducted between June 2016 and 2019

Key evidence (2)

- RAIB examined 259 ‘non-cyclic’ Safe Work Packs at Port Talbot depot:
 - 49% had been authorised by a responsible manager before being verified by a PIC
 - 33% did not specify the name of a PIC
 - 16% had been planned with too few lookouts
 - In 17% of packs the person who had been nominated as the PIC, and who had also verified it, did not perform the role on site.
- RAIB examined 288 SWPs from five different maintenance depots (other than Port Talbot):
 - 31% featured multiple systems of work in one pack (of SWPs examined)
 - 15% featured multiple tasks in the same SWP, or vaguely described work descriptions that probably involved more than one task
 - 12% were verified on the same day as the work task

Did the level 1 assurance process contribute to a lack of corporate insight?

The level 1 process was inherently weak:

- since managers in Network Rail were often judged on the level of compliance with process, there was an obvious disincentive to assess their part of the organisation as non-compliant
 - implied responsibility to take action ('hassle factor')
 - if there were no reports of non-compliances in self-assurance returns, it was easy for particular delivery units or depots to avoid route level audits
 - the process required focus on areas where self-assurance checks had revealed particular problems (ie those areas where self-assurance is being effectively conducted)

How was the level 1 process applied at Port Talbot depot?

- Numerous discrepancies were identified with planning paperwork at Port Talbot depot, and excessive use of generic safe work plans
- Local supervisors had not been adequately briefed on their level 1 checking responsibilities
- Insufficient site inspection and surveillance activities
- Reliance on the checking of paperwork rather than direct observation of how work was being performed

As a consequence, numerous non-compliances went undetected, and the depot was not identified as needing support or guidance in its safety planning processes.

How was the level 1 process applied more generally?

- Level 1 assurance process was not adequately defined or communicated within Network Rail
- Staff, including senior managers in the routes, frequently referred to self-assurance as a 'tick box exercise' and 'going through the motions'
- Intelligence gained from level 1 assurance was neither collated or analysed locally, nor used to feed into route level or national analysis
- There was no consistently applied process to monitor or improve compliance in areas of weakness identified by the Level 1 assurance process
- The verification of safe system of work packs (SWPs) was part of the Level 1 self-assurance process. However, when Level 2 functional audits were carried out, issues with the quality of the packs were often found

What was done about the level 1 assurance regime?

- The issues on the previous slides were identified by a very thorough 'deep dive' review conducted by Network Rail in 2016/17 and had been exposed by numerous level 2 audits
- No evidence was found that effective action was taken to address these deficiencies prior to the accident at Margam



Level 2 assurance

Key evidence

- Review of key process documentation:
 - NR/L2/OHS/019, 'Safety of people at work on or near the line' (standard 019)
 - NR/L2/ASR/036, 'Network Rail Assurance Process'
- Outputs of level 2 audits conducted between June 2016 and 2019

Findings of level 2 audits

- Auditors detected numerous examples of non-compliance with track worker safety arrangements. However, the NCRs provided little or no indication as to why the underlying management system failures were occurring.
- Ten NCRs (encompassing 5 delivery units) recorded non-compliances that were considered by the auditor to be 'systemic' in nature, suggesting that delivery units did not have the management systems in place to deliver compliance.
- The number of repeat NCRs (8 in total) suggests that some delivery units were incapable of embedding compliance with standard 019 and that senior managers in the routes had allowed the situation to persist.
- The NCRs indicated that level 1 'management self-assurance' was an unreliable mechanism.



Management monitoring and review

Management information

- Network Rail's measurement of workforce safety was primarily focused on lagging indicators of safety performance (such as measuring the number of accidents) and the achievement of targets
- The primary focus of the reporting was the number of lost time injuries, many of which are relatively minor in nature
- Papers and presentations to senior management tended to emphasise good news and areas of new initiatives, with little hint of the problems that were being encountered in maintenance depots

Management review

- RAIB could find no evidence that level 2 audit reports were discussed at the board or SHE committee, or that the findings were subject to detailed analysis by Network Rail
- In September 2017, the SHE Committee discussed the adequacy of Network Rail's management assurance framework and concluded that improvements were required. However, RAIB has found no evidence that the subsequent review of the assurance framework led to significant improvements to Network Rail's understanding of the risk to track workers
- The close-out of actions following the level 1 assurance deep-dive was not recorded

Management assurance and culture

Good management assurance relies on:

- management systems to monitor, audit and review the SMS

but also:

- an open and honest culture
- the free flow of accurate information up, down and across the organisation
- the ability and willingness to analyse the above, draw conclusions and implement positive change
- a continuing sense of 'chronic unease'

Management assurance – overall conclusions

- Network Rail's safety management assurance system was not effective in identifying the full extent of procedural non-compliance and unsafe working practices, and did not trigger the management actions needed to address them
- Although Network Rail had identified the need to take further actions to address track worker safety, these had not led to substantive change prior to the accident at Margam

Recommendations linked to management assurance

Reviewing the monitoring and supervision of local management teams
(Rec 2)

Establish a track safety expert steering group
(Rec 5)

Improved management assurance
(Rec 7)

Promoting proactive safety leadership at every level of the organisation
(Rec 6)

Better quality of information to safety decision-makers, and better analysis
(Rec 8)

Conclusions

- Good investigation of management assurance is nothing more than an extension of good causal analysis
- The need for evidence is undiminished
- To investigate management assurance you need to be prepared to ask questions at the highest level of an organisation
- **Remember we are not auditors** – we should always remain focused on causality. A rubbish Safety Management System is not a sufficient explanation of why an accident occurred