MITIGATING SAFETY RISK THROUGH CONFIDENTIAL REPORTING

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SUMMARY

This paper explains the origins and nature of the UK railways' confidential reporting system and demonstrates how confidential reporting can reinforce safety defences, helping to improve organisational resilience, and ultimately, prevent accidents.

Confidential reporting captures information that might not otherwise figure in companies' internal reporting systems. The barriers to safety reporting, why staff choose to report to CIRAS, and the positive changes facilitated by CIRAS reports are all discussed here.

Where weaknesses in safety defences are identified, confidential reports offer an opportunity for managers in an organisation to act without feeling that such reports challenge their own authority. Moreover, the reports present an opportunity for organisational learning, not only by resolving the reported issues, but also in understanding potential weaknesses in internal reporting processes.

INTRODUCTION

This paper describes the benefits of confidential reporting. It details how confidential reporting can help resolve safety issues which have not been fully addressed by conventional internal reporting channels.

The UK's Confidential Incident Reporting and Analysis System (CIRAS) began in 1996 as a pilot scheme. CIRAS' experience over almost two decades demonstrates how confidential reporting helps organisations benefit, not only in safety terms, but also in terms of organisational learning and resilience, and business performance.

As part of its five year plan and strategic vision, CIRAS is extending its service to other transport modes, including marine, aviation, coach and bus and other rail systems such as trams and light railways. As more organisations embrace CIRAS, the more we can learn about the safety behaviours and culture that cross multiple transport modes, even within the same corporate organisations.

Confidential reporting is, we believe, a key part of a strong safety culture. Its adoption across the UK's rail industry shows how such reporting can improve safety defences within organisations, as well as providing a proactive way to learn from potential weaknesses, in cultural and safety and terms. For some

organisations, confidential reporting is simply seen as an integral component of their safety management systems; this is a view actively encouraged by CIRAS.

It is difficult to say with any certainty the extent to which CIRAS reports have prevented accidents. However, we can provide clear evidence that confidential reporting through CIRAS has made the UK's rail industry safer.

Brief history of CIRAS

CIRAS began in 1996 when a team from Strathclyde University was invited by ScotRail, the provider of passenger rail services in Scotland, to introduce a confidential reporting system for their operations. Participation soon spread to other railway organisations in Scotland and other UK railway companies began showing interest in an industry-wide confidential reporting system for health and safety issues. Following the major rail accident at Ladbroke Grove in 1999, in which 31 people died, CIRAS was extended to include the whole of the mainline rail system in Great Britain. Today, CIRAS is open to the prospect of serving other forms of transport including coach and bus, marine, light railway including trams, and aviation.

From pilot scheme to national system

The University of Strathclyde ran the original pilot scheme on behalf of ScotRail, to help ensure its independence. Confidential reporting was recognised as a potentially important way to uncover human factors data that might be missed by conventional reporting channels. As Davies, Ross, Wallace and Wright (2003: 65) point out:

"…existing reporting channels are often associated with disciplinary action, and this distorts both the nature and number of reports received. This is particularly true in the railway industry where, historically, relationships between workforce and management have sometimes been characterised by mutual mistrust and animosity, rather than co-operation."

The aims of the system were to collect reports from safety critical staff such as drivers, signallers and track workers which might not normally be reported through conventional channels, and to enhance existing safety management systems. The intention has always been to complement existing reporting channels, not to replace them.

Before CIRAS began, CHIRP (Confidential Human Factors Reporting Programme) had operated in the aviation industry for over a decade. CHIRP provided the model for CIRAS. There were many similarities between the two systems which continue. Both systems take reports confidentially, but not anonymously (meaning that the individuals reporting are known to CIRAS), and both publish newsletters.

In June 2000, CIRAS obtained a national mandate for its operation as a charitable trust, extending its coverage to all UK Railway Group members. This followed the Ladbroke Grove train accident, and the subsequent Cullen Inquiry, which encouraged the scheme's extension (2001: 67):

"A confidential reporting system, CIRAS, is now in place across the industry. It is to be hoped that in the longer term the culture of the industry would be such as to make confidential reporting unnecessary. I accept that this situation may be a long time in coming to pass in the industry. In the meantime I fully support and encourage the further use of the CIRAS system."

More recent developments

CIRAS was formally incorporated into Rail Safety Standards Board (RSSB) in 2008, giving up its status as a charitable trust. It remains operationally independent, with its governance overseen by an independent committee with representatives of member organisations, the trade unions, independent experts, and an independent chairman. Since its incorporation into the RSSB, there are greater in-house opportunities for the sharing of railway intelligence between CIRAS and RSSB.

CIRAS began to extend its reach into other transport areas in 2014. This allows engagement with other sectors such as marine, light railway, trams and bus, aviation and other transport related modes. The purpose of this is to create a learning hub for cultural and safety reporting issues.

In 2015 the UK's mainline infrastructure manager, Network Rail, decided to require its subcontractors to subscribe to CIRAS. This has seen membership grow to well over a thousand members.

What is "confidential reporting"?

All reputable employers encourage their staff to report health and safety incidents, and have robust internal processes to ensure that such incidents are investigated appropriately. Most employers are aware that not every incident is necessarily reported, for reasons ranging from forgetfulness (individuals may not regard "minor" incidents as having significance) to deliberate withholding of information (a particular concern where individuals feel they may be blamed for incidents).

Confidential reporting provides staff with an additional way to report health and safety concerns (not only specific incidents) to their employer, and to receive feedback from their employer on what has been done about their concern. People who make reports ("reporters", as CIRAS calls them) do so knowing that their employer will not know who has raised the concern.

Confidential reporting is not anonymous reporting; CIRAS needs to be able to contact reporters to ensure that reporters are satisfied that their concerns have been properly addressed. Neither is it a "whistleblowing" service, as generally understood; CIRAS does not involve the regulatory authorities and is not interested in finding or demonstrating fault.

Confidential reporting is simply a way to increase the volume and quality of safety intelligence available to employers. And CIRAS ensures that employers respond to the concerns raised. We don't let anyone "forget" to respond.

How is CIRAS funded?

Every company which participates in CIRAS pays an annual levy, based on the company's turnover.

Who uses CIRAS?

Originally, CIRAS only took reports from safety critical staff. These days, CIRAS will take reports from any staff with a safety concern. However, it is clear from the chart below (Chart 1) that safety critical staff - drivers, station staff, conductors, and track workers - still tend to report more than other workers.

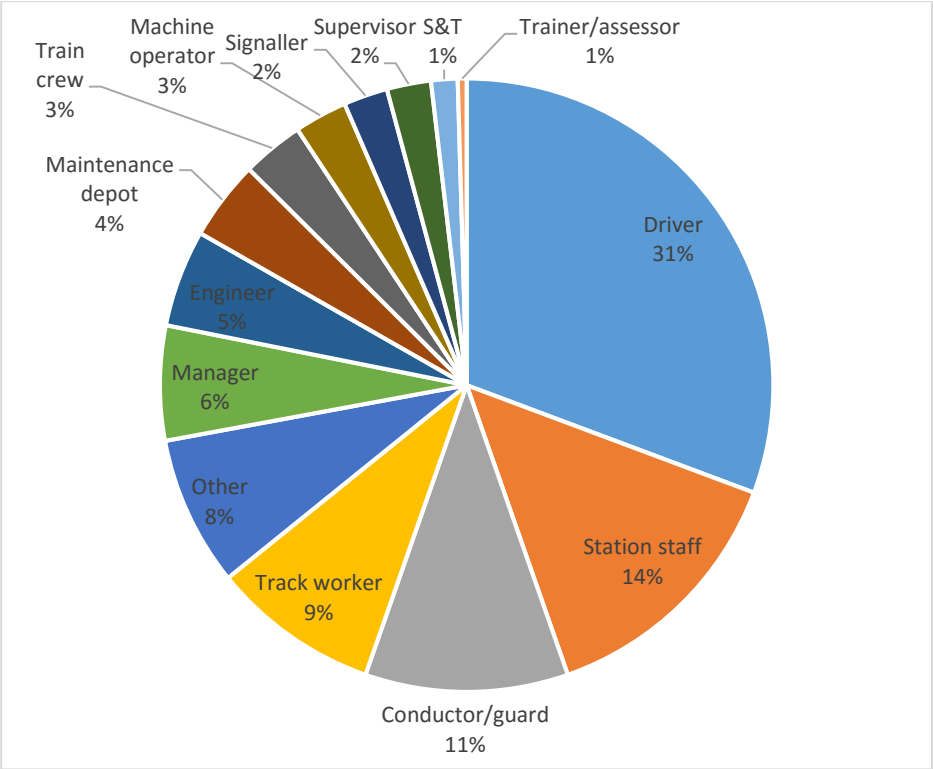

Chart 1: Who uses CIRAS? (2014/15 financial year)

Why do staff use CIRAS?

The most common reason for staff reporting a safety concern to CIRAS is because they feel an issue has been left unresolved. In most cases (76 per cent), their safety concern has already been reported internally but the response from their employer has been perceived as unsatisfactory in some way.

Chart 2 shows the reporters' perceptions of the response they have received through their internal reporting channels. CIRAS is currently seeking to increase our understanding of why staff use a confidential reporting system. We suspect that, for example, interpersonal conflict, organisational culture, and poor industrial relations systems may all feature in someone's decision to approach CIRAS.

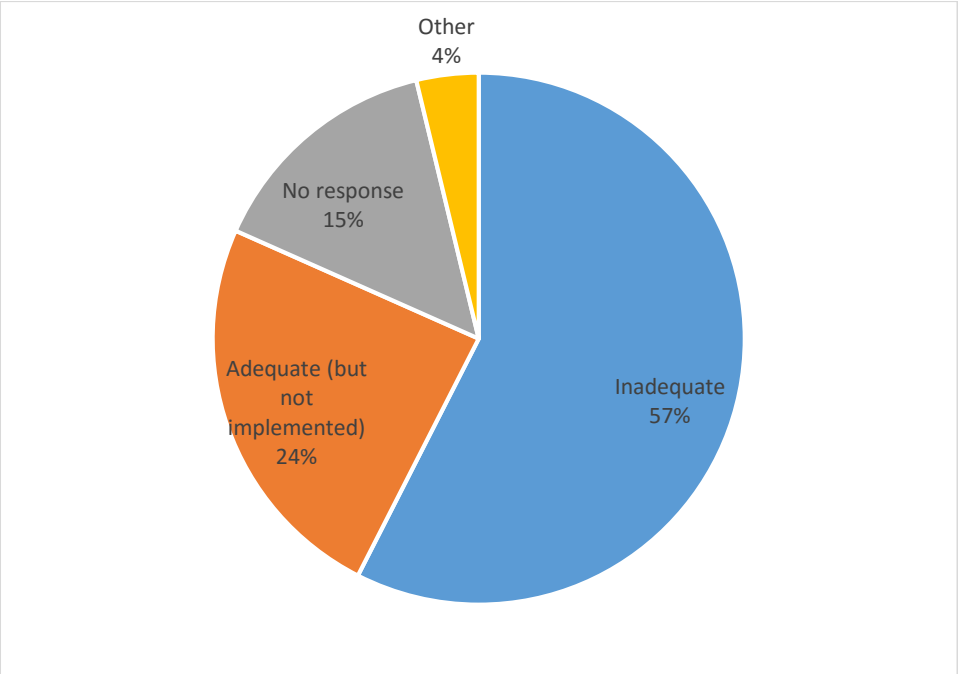

Chart 2: Perceptions of internal response to safety concern (2011-2015)

Some qualitative information on positive outcomes

Positive outcomes from CIRAS reports can be analysed both quantitatively and qualitatively. This section considers the data from a qualitative perspective.

CIRAS actively tracks what the outcomes of its reports are by directly asking the respondents of reports what has changed. In qualitative terms, it is helpful to point to some specific subject areas of reporter concern and how these have been addressed. The following list of outcomes from the last 12 months is by no means exhaustive, but is a fairly representative selection of the issues handled by CIRAS. All the reports listed here were highly rated by the respondents:

Training. Two large infrastructure contractors investigated a CIRAS reporter's concern about the training of new banksmen, whose safety behaviour was reported to be below standard. The direct result of the report was that 17 staff were given more training and a more effective assessment regime was put in place. The contractors' response ensured not only that the problem was tackled, but also that the underlying management issue that led to the safety issue was as well.

Maintenance. A long-standing Automatic Warning System (AWS) fault at a signal was repaired soon after it was reported to CIRAS. But the infrastructure management company (Network Rail) weren't content to leave it there. They amended their procedures to help ensure a more rapid response to faults of this nature in the future.

Train dispatch arrangements. When a CIRAS report showed that train dispatch arrangements were not being followed closely enough at a station, the train operator undertook a thorough review of competence monitoring and management, and then committed to a robust action plan. Another benefit of the report was that it clearly encouraged improvement to the supporting infrastructure. The installation of a CD (Close Door) indicator to supplement the existing RA (Right Away) indicator is now being progressed.

Road risk. Every year, we take reports on the risks involved in driving long distances to and from work sites. Two infrastructure workers died last year in a road traffic accident whilst on duty. One contractor was especially grateful to receive one of our reports on driver fatigue and long travel times. Their own investigation in fact reveal some exceedances, and concluded there was a need for more effective monitoring with long-term IT investment planned.

Health and well-being. A number of issues potentially affecting health and wellbeing were highlighted in a CIRAS report about the train crew accommodation at Bristol Temple Meads railway station. The responsibility for the various issues was subsequently established at a meeting between the Network Rail, who manage the station, and First Great Western, the train operating company. A total of nine faults were addressed to improve the quality of the accommodation, proving that CIRAS can effectively help resolve issues away from the running line.

Communications. A CIRAS report about safety critical radio communications at the Port of Felixstowe led to a full investigation. After the two freight operators using the port, and the port authority itself, agreed to add an additional radio channel, the safety risk was effectively eliminated. This is a good example of a CIRAS report triggering an investigation involving the collaboration of several different parties, and a robust action plan to tackle a clear risk.

Organisational Benefits

There are considerable benefits for an organisation subscribing to a confidential reporting system. Some of the main ones are described here.

Jogging organisational memory

Confidential reporting provides a way for organisations to explore the link between past safety incidents and the potential for something similar to happen in future. It helps organisations tap into their memory banks, and review their rules and operating procedures.

Confidential reporting encourages organisations to retrieve safety critical experience from their memory banks – and then reflect on it. Safety lessons from an organisation's past can be brought to bear on safety decisions in the present. It is an effective management safety tool with the power to inform decision-making

Nudging management behaviour

The 'nudge' approach has been popularised by Thaler and Sunstein's (2008) book of the same name. CIRAS can often nudge a company into re-thinking its approach to a long-standing issue that hasn't yet found resolution. Confidential reporting often proves itself able to nudge a company into responding differently using a purely facilitative approach.

Most reports made to CIRAS have already been reported through company reporting channels before reaching CIRAS. Nevertheless, over 70 per cent of the reports prompt, or nudge, some form of positive action from the company concerned. So in most cases, even though the company was already aware internally of the issue, for some reason - lack of appreciation of the risks involved, local politics, or general inertia – the issue had remained unresolved. By 'nudging', a confidential report can frequently makes the difference if it is viewed as an opportunity to address an issue, rather than a threat to organisational authority.

Unacknowledged safety risks and being alert to 'black swans'

CIRAS often presents new information to employers – companies tell us that 35 per cent of CIRAS reports contain new information. This new information provides an opportunity to address unacknowledged safety risks, and prevent what Taleb (2007) calls a 'black swan', a low probability but high impact event. In this scheme of thinking, the unknown is considered to be even more relevant than the known.

Safety risk models invariably use data from known safety incidents, but cannot adequately account for unpredictable safety events which can have a far greater impact. Confidential reporting helps highlight potential events and patterns which have not yet manifested themselves as fully-blown safety events. The information from confidential reports can be a critical tool in determining where safety managers focus their attention. It is just as important to be strategically alert to new safety risks, as it is to focus on data from old incidents.

Looking to the future

CIRAS believes that the standard rail industry approach of categorising reports by activity, potential outcome or harm is not likely to continue delivering radically improved health and safety performance. We are currently exploring a move to a 'defences-based' model in which the dialogue between the reporter and the CIRAS team is about which protections (processes, procedures, systems, and equipment) failed, and which worked. A report to CIRAS typically means that something is wrong, but as yet no harm has occurred. In these circumstances, some defences are likely to be working well, or even beyond their intended duty, whilst other show weaknesses.

The CIRAS team would analyse the report in the context of the defences that should have been in operation, considering what strengths and weaknesses were present in the reported situation. This analysis would then form the basis of an 'added value', management systems level, dialogue with the employer. This process would run in parallel with the practical dialogue of resolving the immediate issue.

For such a 'defences-based' model to work, each person in the chain would have to move out of 'synaptic thinking' – knowing only their inputs, role and outputs - to sharing an overview of where they fit in the overall risk control system. In practice, this means employees need to understand not only what they should do, but also why, how, and where this fits into their employer's risk control process.

Companies receiving CIRAS reports will need to establish where a report fits into their risk controls so both the immediate lessons, and the wider lessons, for their company can be extracted. They too will have to move out of 'synaptic thinking'. This is not easy, especially since many corporate systems are complex and difficult to understand.

If CIRAS can achieve this, the value in learning and risk reduction from the whole process from report to resolution, and the quality of the dialogues at each stage, should increase significantly. CIRAS would then be able to position itself as a leading edge component, not only in the safety domain, but also in the domain of organisational learning and continuous improvement.

CONCLUSION

This paper shows how information provided in confidential reports can be used to good effect in mitigating safety risks. Though all the data pertains to the railway industry, the same principles can be applied in other industries. As CIRAS expands into other transport industries, it will be increasingly possible to extrapolate the lessons from one industry and apply them to another.

Confidential reporting complements existing health and safety management systems and, when used effectively, facilitates resolution of long-standing safety issues. At the same time, organisational safety defences can be significantly bolstered. It can also highlight emergent safety risks, which can remain hidden and unacknowledged and may not feature in standard risk models. Confidential reporting has a clear role in helping identify such emergent safety risks as the industry pursues even fewer health and safety incidents and further improvements in its health and safety culture.

REFERENCES

Davis, J., Ross, A., Wallace, B. and Wright, L. 2003, *Safety Management: A Qualitative Systems Approach*. (London: Taylor and Francis)

Cullen, W.D. (2001), *The Ladbroke Grove Railway Inquiry: Part 1 Report*, 2001. http://www.railwayarchive.co.uk/documents/HSE_Lad_Cullen001.pdf

Thaler, R.H. and Sunstein, C.R. (2008), *Nudge: Improving Decisions about Health, Wealth and Happiness.* (Cornwall, Yale Book)

Taleb, N.N. 2007, *The Black Swan: The Impact of the Highly Improbable*. (London, Penguin)