

Mitigating safety risk through confidential reporting

Chris LANGER and Rob MILES

CIRAS (Confidential Incident Reporting and Analysis System London), UK

Abstract. This paper demonstrates how unique insights from confidential reporting in the transport sector can reinforce safety defences, helping to improve organisational resilience, and ultimately, prevent accidents. CIRAS is able to capture information from frontline staff who choose for a variety of reasons to use an independent service. This information might otherwise be lost by conventional, internal reporting systems because in certain circumstances, they may not be fully utilised. CIRAS is therefore in a position to share why some staff feel that internal reporting channels have not been successful, or in a minority of cases have come directly to CIRAS.

Keywords. Confidential reporting, risk management

1. Introduction

This paper highlights the benefits of confidential reporting to industries where safety is of paramount importance, but also to other industries where the management of risk is a key driver. It details how the implementation of confidential reporting can mitigate safety risks through the resolution of long-standing issues which have not been fully addressed through internal reporting channels.

The more organisations that 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 not new. It is already utilised in many industries beyond rail. Serving as a strong model of good practice, CIRAS continues to evolve by offering companies a corporate safety net and last line of defence.

It is argued here that confidential reporting is a key determinant of a strong safety culture. Its universal adoption across the rail industry shows how an independently operated scheme can contribute to improved lines of safety defence within an organisation's safety management system, as well as providing a proactive way to learn from potential weaknesses, in cultural and safety terms. For some organisations, confidential reporting is simply seen as an integral component of their safety management systems, a view actively encouraged by CIRAS.

It is extremely difficult to say with any degree of certainty what CIRAS reports have actually prevented an accident from occurring. However, we can qualify the view by providing clear evidence through illustrative cases that confidential reporting through CIRAS has made the rail industry an even safer place. The actions taken by member organisations over the years clearly demonstrate that reporting employees have contributed to a safer working environment. Those organisations responding positively are well on their way to achieving a strong, open safety culture.

2. Brief history of CIRAS

CIRAS began in 1996 when a team from Strathclyde University was invited by ScotRail to introduce a confidential reporting system for their operations. Soon participation spread to several other railway organisations in Scotland.

Other railway companies started to show interest in an industry wide confidential reporting system for health and safety matters.

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 tragic loss of lives at the Ladbroke Grove train accident in 1999, 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."

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. Though CHIRP is already available to the aviation sector in the UK, some companies with operations across different transport modes have requested the availability of CIRAS as an additional safety net. A key, overall aim is to create a learning hub for cultural and safety reporting issues which are relevant to a number of transport sectors.

CIRAS continues to grow, taking on new members from the various sectors of the transport community. In 2015, the new requirement for Network Rail subcontractors to subscribe to CIRAS has seen membership grow to well over a thousand members.

3. Who uses CIRAS?

Originally, CIRAS only took reports from safety critical staff. These days, CIRAS will take reports from any rail staff or other transport members with a genuine safety concern. In 2014/15, CIRAS took 848 contacts of which 215 became processed safety reports. It is clear from the chart below (Figure 1) that safety critical staff - such as drivers, station staff, conductors, and track workers - still tend to report more than other categories.

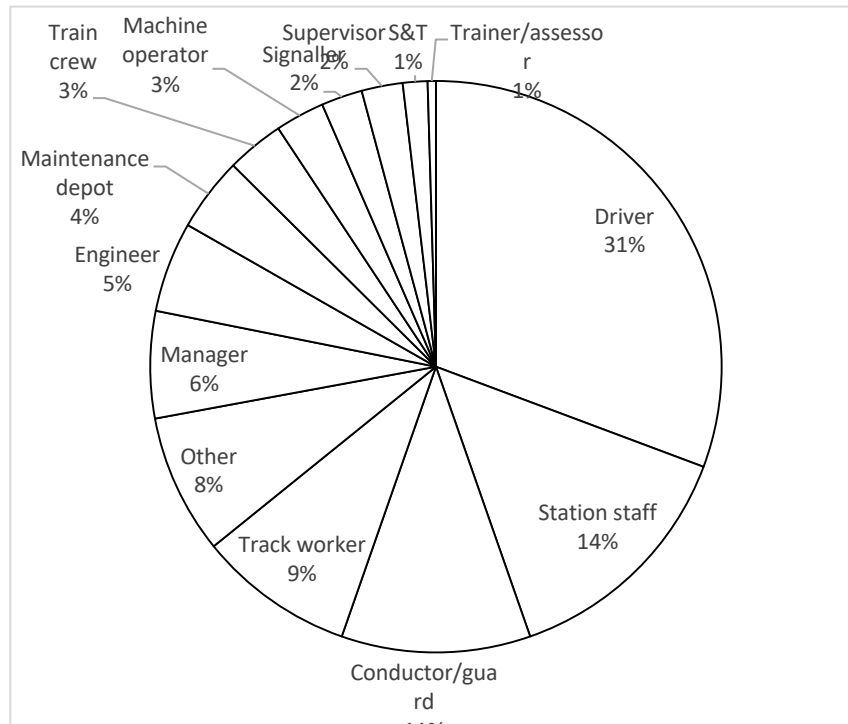


Figure 1: Who uses CIRAS? (2014/15 financial year)

4. Why do staff use CIRAS?

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

Table 1 below shows the reporters' perceptions of the response they have received through their internal reporting channels. However, we are looking to expand the categories for why staff use a confidential reporting system - for example, interpersonal conflict, culture, and poor industrial relations at work may all feature in the decision to approach CIRAS. CIRAS has never sought to replace internal reporting channels, and actively encourages their use. As a complimentary channel, CIRAS is promoted as a 'safety net' rather than an alternative reporting channel. Safety issues that would be better attended to internally first are redirected to appropriate internal channels. However, if there is a valid reason for using a confidential channel without going internally first - such as where there is a fear of retribution - CIRAS will process the safety concern.

Table 1: Perceptions of internal response to safety concern (2011-2015)

Perception of company response	Per cent
Inadequate	57 %
Adequate (but not implemented)	24 %
No response	15 %
Other	4%

5. 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 companies receiving the reports what action has been taken, and then asking reporters to verify this. In qualitative terms, it is helpful to point to some specific subject areas of reporter concern and how these have been addressed. The following table of issues, responses and 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 in table 2 were highly rated by the companies responding. In terms of overall values, they were rated at 7/10 and above.

Table 2: Some reported issues and their positive responses

Issue	Response	Outcome
Training. Two large infrastructure contractors investigated a valid CIRAS concern about the training of new banksmen, whose safety behaviour were 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' proactive response ensured not only that the problem was tackled, but the issue that led to the safety issue was too.
Maintenance. CIRAS makes a difference to infrastructure maintenance too. A long-standing AWS fault at a signal was repaired soon after it was reported.	A long-standing AWS fault at a signal was repaired soon after it was reported to CIRAS.	Network Rail amended their procedures to help respond more quickly to faults of this nature in the future.
Train dispatch arrangements. 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 is that it is clearly encouraging further improvement, in this case to the supporting infrastructure. The installation of a CD (Close Door) indicator to supplement the existing RA (Right Away) indicator is now being progressed.
Equipment. A conscientious CIRAS reporter flagged up the inappropriate use of concrete breaking equipment by 360 machines.	The report led to work on a site in Lincolnshire being stopped by contractors before corrective action was put in place.	The contractors' prompt response to the CIRAS report helped prevent an accident.
Road risk. Every year, CIRAS takes reports on the risks involved in driving long distances to and from work sites. One contractor was especially grateful to receive one of our reports on driver fatigue and long travel times	The contractor's own investigation in fact reveal some exceedances.	It was 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.	The responsibility for the various issues was subsequently established at a meeting between the Network Rail, who manage the station, and First Great Western.	A total of nine faults were addressed to improve the quality of the accommodation, proving that CIRAS can effectively assist in the resolution of 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 an obvious risk. In a broader sense, confidential reporting can lead to improved communication between companies and contractors in a complex industry, where a diverse set of operational agendas and activities are present.

6. Organisational benefits

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

Jogging organisational memory. Confidential reporting provides an opportunity for organisations to explore the link between past safety incidents and the potential for something similar to happen in the future. What often happens is that the potential event described by a reporter in a CIRAS report is checked against events in an organisation's incident reporting system. It helps safety 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.

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. By 'nudging', a confidential report can frequently make the difference if it is viewed as an opportunity to address an issue, rather than a threat to organisational authority. The report itself encourages thinking about a safety issue in a slightly different way, prompting a behavioural change in management.

Unacknowledged safety risks and being alert to 'black swans'. CIRAS very often presents new information - 35 per cent of CIRAS reports contain new information, as verified by the companies themselves in response to the question: 'Did the report provide any new information?'. This new information provides an opportunity to address an unacknowledged safety risk, 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.

Improving safety defences. There is an acknowledgement that the standard industry approach of categorising incident reports by activity, potential outcome or harm is not likely to deliver the major change required. The proposal is therefore to move to a 'defences based' model in which the dialogue between the reporter and the CIRAS team is about what protections (processes, procedures, systems, and equipment) failed, and what 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 others 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' systems level dialogue with the employer. This process would run in parallel with the practical dialogue of resolving the immediate issue.

7. Conclusion

The data presented here illustrates how information provided in confidential reports is 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 too. 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 has the clear potential to complement existing safety management systems and, when used effectively by mature safety organisations, can facilitate the healthy resolution of long-standing safety issues. At the same time, organisational safety defences can be significantly bolstered by the reporting process.

In a significant proportion of cases, it can also highlight emergent safety risks. Such safety risks, which largely remain hidden and unacknowledged, will not feature in standard risk models. Confidential reporting has an obvious role in surfacing such emergent safety risks in the pursuit of even fewer safety incidents and improved industry safety culture.

References

- Cullen, W.D. (2001), *The Ladbroke Grove Railway Inquiry: Part 1 Report*, 2001. http://www.railwayarchive.co.uk/documents/HSE_Lad_Cullen001.pdf
- Davis, J., Ross, A., Wallace, B. and Wright, L. (2003), *Safety Management: A Qualitative Systems Approach*. (London: Taylor and Francis)
- 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)