

A SAFETY CULTURE TOOLKIT – AND KEY LESSONS LEARNED

Peter Ackroyd

Technical Head, Greenstreet Berman Ltd

INTRODUCTION

The recent Baker report (Ref 1) has again highlighted the importance of ‘safety culture’ on the actual effectiveness of safety management arrangements, and how degradation can readily occur even in ‘mature’ organisations. It also raises the challenge of safety culture assessment; what should be considered and how? Are there any pitfalls in undertaking safety culture assessments? The purpose of the paper is to prompt organisations to consider carefully how to make best use of safety culture assessments as part of an overall approach to safety management, without being seduced into false perceptions of their own strengths and limitations.

This paper has been prompted in part by recent work we have been undertaking. We have been developing a comprehensive ‘web-enabled safety culture toolkit for an industry sector with our partners Enable Infomatrix. This toolkit is a significant development of safety culture assessment and guidance tools. This demonstrates that advanced tools can be developed that permit routine safety culture assessments to be easily undertaken and interpreted. It shows that simple to use, on-line tools can greatly aid process industry companies to assess key aspects of their safety culture and help to identify improvements. It raises the possibility for developing similar process industry toolkits that could be used to address ‘process safety culture’ and offer great opportunities to share good practices within an organisation or across the process industry.

The trials of the toolkit along with our collective experience of safety culture assessment has raised the whole issues of the objectives and appropriate use of safety culture assessment – i.e. for continual improvement not merely ‘acceptance’. This paper considers the limitations and cautions that need to be placed on use of assessments to ensure that organisations do not mislead themselves and believe they are better than they are. It considers the key aspects of ‘safety culture’ that process industries should address to avoid the types of pitfall demonstrated so clearly by the Texas City incident. It draws on experience of other safety culture assessment approaches to highlight the potential for ‘internal anchoring’. The paper concludes with thoughts for the process industry on effective use of safety culture assessment as a means to avoiding complacency. It relates back to the challenge of ‘Organisational Drift’ and the Baker panel recommendations following Texas City.

PART 1 THE SAFETY CULTURE TOOLKIT

Over the last two years Greenstreet Berman has been developing an advanced web-based safety culture toolkit. This permits companies readily to undertake safety culture assessments

and conduct immediate analyses of their results. Importantly, the toolkit provides guidance on improvement strategies that are targeted in response to the assessed culture; it also provides a general source of useful information on safety culture and its improvement. Trials of the toolkit with companies have been very successful. However, the results from the two companies have pointed to potential limitations of any survey based approach to assessing safety culture, particularly via ‘internal anchoring’ i.e. that relative insularity means people can only judge on their limited experience and do not respond in an adequately absolute manner.

AN OVERVIEW OF THE TOOLKIT

The toolkit is web-based and has three main elements:

- A ‘Useful Information’ area – providing a source of reference on safety culture and generic advice on safety culture improvement
- The main safety culture assessment area – based around a questionnaire that incorporates an extensive automatic analysis and interpretation capability, including benchmarking against all or selected registered users
- A ‘Good Practice’ area – that currently contains around 70 examples and is formatted to allow exchange, inclusion of additional examples

The toolkit permits companies, once registered, to tailor their own confidential area within the overall toolkit by adding news items. Company confidentiality is ensured as no registered users are able to access the sites and results of other companies (other than via the benchmarking report). Similarly individual confidentiality is ensured via a variety of means.

The safety culture assessment survey is the core assessment tool and it comprises a questionnaire that has been developed using lessons gained from research into safety culture assessment approaches. It follows similar safety culture attitude surveys. The key advances are in its analysis and accompanying interpretation. The toolkit permits a very comprehensive set of analyses to be undertaken and provides both text and graphical outputs.

The toolkit comprises both generic and specific guidance; this has been developed from review of the latest safety culture developments. The guidance is based on literature and models that have gained considerable use and credibility; and that allow the users to gain maximum insights into understanding their safety culture and how to improve it.

PILOT TRIALS & LESSONS LEARNED

Two companies have undertaken full company surveys using the draft toolkit. These were very successful – both companies being impressed with the general ease of use of the toolkit and particularly how easy it was to undertake analyses. As the toolkit is web-based it

permits rapid access to the results by all (with appropriate company authorisation) to run and view the results. This permits the toolkit to be used at a local level by managers as well as considering the overall company.

The results of both companies showed that the general safety culture in both organisations were good and enabled a variety of key issues to be identified, for example:

- Differences between departments
- A notable difference between one location and all others
- A noted difference in the general level of satisfaction in safety standards between front line staff and their immediate supervisors/managers

In detailed discussions, all of the results obtained reflected well on the companies safety professionals view of issues within the company.

The results generated by the two companies did highlight some key issues that are important when undertaking any attitudinal safety culture assessment. The main issues being:

- What should safety culture assessments really be used for, and what should they measure?
- What are the hidden issues to be aware of?
- How important is an external perspective on any safety culture assessment?

These are raised and discussed in the second part of this paper.

THE IMPLICATIONS

The development of this type of safety culture toolkit shows that some very effective safety culture assessments tools can be developed for industry sectors, or organisations, to use without requiring extensive external support. Further more such web-based tools provide many additional benefits to the user organisations. In particular, analyses and use of the assessments can be given to a much wider range of line managers and employees to help local improvements. Additional benefits include:

- The capability of sharing ‘good practices’ quickly and effectively
- Benchmarking across an organisation or industry sector
- Tailoring the questionnaire to meet specific industry sector/organisation needs

The challenge for safety culture assessment, particularly if such ‘self-help’ comprehensive tools become available is to ensure that they are used appropriate to aid improvement and do not unwittingly lead organisations astray.

PART 2 SAFETY CULTURE ASSESSMENT – HOW TO USE EFFECTIVELY

Our experience over many years of differing approaches to measure ‘safety culture’ in some guise or other is that they can be very useful and provide very valuable insights IF

used appropriately. They can be positively mis-leading or even dangerous if used inappropriately. Key issues from our experience, and re-highlighted from the safety culture toolkit project include the following.

WHAT'S THE PURPOSE?

Safety culture assessments (based on attitudinal questionnaires and workshops) can provide some very useful insights into the relative strengths and weaknesses within an organisation. Hence this can provide a very useful platform for continuous improvement. However, attitudinal approaches particularly questionnaires, should not be used on simple pass/fail or acceptable/unacceptable basis. Responses to questionnaires can be open to many influences including other issues affecting staff within the organisation (e.g. pay & conditions; immediate manager; 'internal anchoring') and this can significantly limit their ability to be used as an absolute measure of performance. The judgements based against fixed or absolute values are likely to be mis-leading, and it is far more useful to use the results to identify comparative differences in responses to help identify strengths and weaknesses. This places limitations on the usefulness of benchmarking between surveys.

WHAT TO MEASURE?

The safety culture toolkit questionnaire is similar to others including the HSE CST questionnaire in that, arguably, it tends to address 'general safety' i.e. primarily relating to the H&S of employees. For many organisations this is likely to be the most appropriate topic to consider. However, the BP experiences at Grangemouth (2000) and Texas City (2006) and findings of the Baker report show that management can become excessively focussed on, and mis-led by simple employee LTA type indicators. So any assessment of safety culture needs to start from considering what aspects of safety this organisation/sector should be really concerned with.

The answer may well be that there is more than one aspect of H&S that needs to be considered. Consequently for some organisations/sectors having 'safety culture' questionnaires to tackle each key area may be required. The Baker report includes a 'process safety' safety culture questionnaire used to provide a greater focus on key issues for this area. The author's experience in the nuclear industry is that several non-nuclear safety measurement approaches were adopted, which caused unease amongst many technical specialists as they did not appear to provide sufficient focus on nuclear safety issues. Interestingly, companies won several safety awards at the same time as having a series of incidents on nuclear related safety issues.

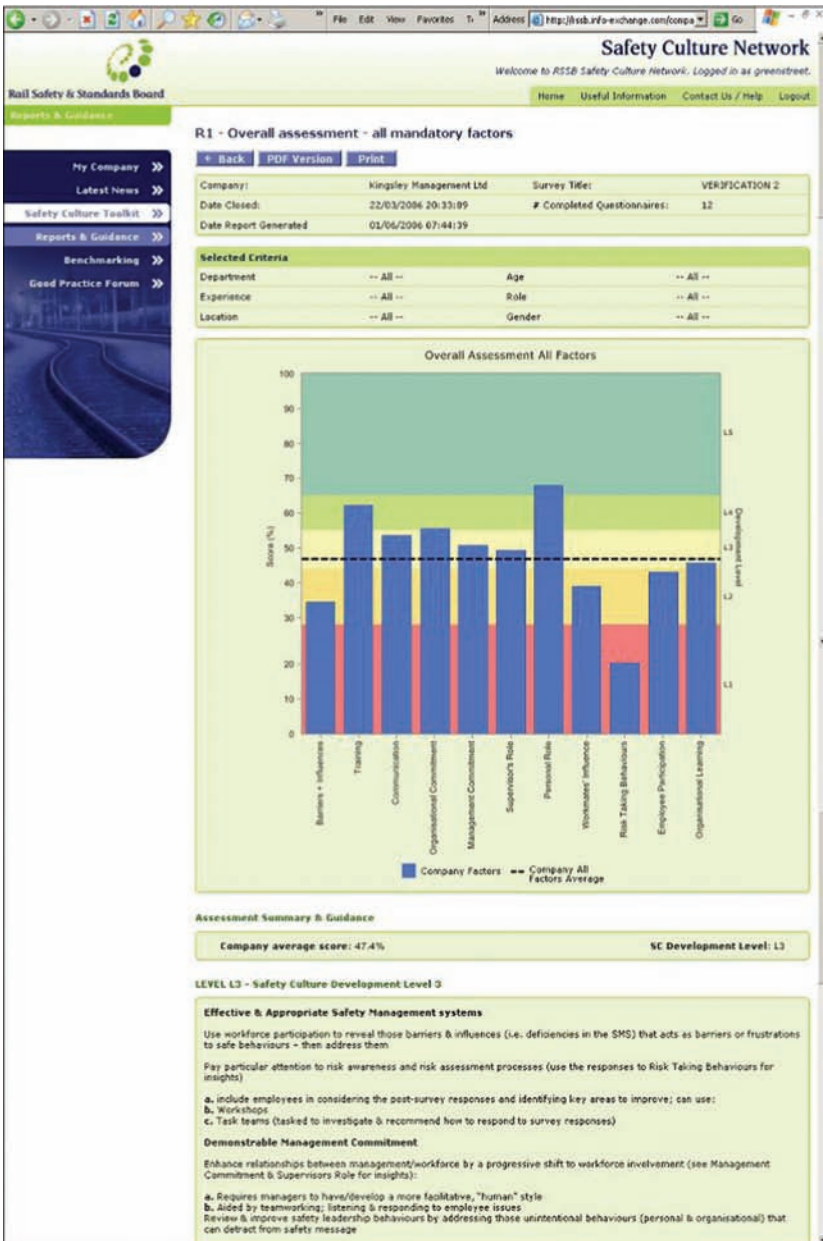
Attitudinal surveys by themselves are not sufficient to identify all key issues; it is imperative to use them to complement the insights gained from other safety performance measures and audits. They can reveal 'hidden' issues that may otherwise be missed.

The screenshot shows the 'Safety Culture Network' website. At the top, there is a navigation bar with 'Home', 'Useful Information', and 'Contact Us / Help'. A central banner reads 'Welcome to the Safety Culture Network' and describes the site as a one-stop-shop for safety culture assessment and improvement. A circular diagram titled 'Safety Culture Improvement Toolkit' is divided into four quadrants: 'What is Safety Culture?', 'Safety Culture Assessment', 'Who should use this site?', and 'Safety Culture & The Rail Industry'. To the right of the diagram is a registration and login section. It includes a 'Register...' button for new users and a 'Login' button for existing users, with fields for 'Username' and 'Password'. A 'Remember my login details' checkbox is also present. At the bottom right, there are links for 'Privacy Policy' and 'Legal Policy'.

ISSUES TO CONSIDER

Internal anchoring – the recent toolkit survey results were very good, indeed better than envisaged based on other knowledge on the safety performance and culture. Detailed discussions revealed that in comparison with other types of rail companies, these were likely to be amongst the best performing, and that staff were generally very content with the companies. Also most employees have little experience outside the rail industry. A likely explanation of the better than judged responses is ‘internal anchoring’ i.e. the respondents are making the judgments against their own experiences – but if these have (collectively) been very limited they do not represent judgement against an objective global or ‘absolute’ scale. Very similar experiences occur with other organisational assessment approaches. Peer evaluation processes in the nuclear industry often show that staff judge things to be acceptable, but an international peer assessment team has very different judgments on the standards. Research into the development of a new safety culture assessment approach (SCART¹) in the nuclear sector (using behavioural descriptions on key topics)

¹SCART = Safety Culture Assessment & Rating Tool – developed by British Nuclear Group (Reactor Sites)



showed very different assessments between station staff self-evaluation; corporate H&S staff evaluation, and that undertaken by an international peer review team. The corporate staff and international peers perceiving the 'safety culture' to be significantly lower than the internal self-evaluation.

This potential 'internal anchoring' is particularly relevant in industries that are relatively 'insular' and suggests that obtaining an external perspective on the results is likely to be very useful. It also reinforces the message that improvements should be driven from the comparative differences revealed by a survey rather than just judging on the absolute values.

Building on the existing culture – survey results allow greater insights to be gained into the existing culture, and help to identify relative strengths and weaknesses. Any improvement strategy should be based on building onto the existing culture, particularly its strengths. The relative success of many safety improvement initiatives (e.g. behavioural observation programmes) are dependent on whether the culture (or key aspects of it) is right.

Being prepared to respond – safety culture surveys tend to have a high profile within an organisation when implemented and create workforce expectations on the response. Doing a survey then not being seen to respond adequately is nearly always worse than not doing a survey at all. Consequently any organisation considering undertaking a safety culture assessment should already have planned and prepared as to how it intends to respond – and that it matches the expectations of the workforce.

Not just a measurement tool – any high profile safety culture assessment should not just be viewed as a means of measurement. This would be 'missing a trick' in the overall safety improvement strategy. Due to the high profile and expectations it creates, a safety culture assessment can help energise and create focus and interest in safety improvement. This is as much a benefit from the exercise and the insights it provides.

SUMMARY

The web-enabled safety culture toolkit represents a significant step forward in safety culture assessment and improvement. It permits organisations to 'self-help' with minimal external input and provides the organisation, or industry sector to allow much easier access and use of attitudinal based surveys. However its ease of use and capabilities also make it even easier for organisations to mis-use or be led astray by the results of safety culture surveys. If used appropriately such assessments are a significant additional 'weapon' to use to improve safety culture and prevent significant accidents occurring. The onus is on organisations to critically consider the key aspects of 'safety' that they need to address and tailor their safety culture assessments accordingly. Similarly effective use of the results and insights gained from such assessments needs organisations to be willing to use the tools in appropriate ways. As with any tool, it is only a tool and its users to use it as intended.

ACKNOWLEDGEMENTS

Enable Infomatrix have been a key partner in developing the toolkit; without their IT expertise it would not have been possible to create the toolkit. Thanks to all who have been

involved in the development, particularly to Colin James all the hours of detailed discussions and development to help turn the ideas into a practical product.

REFERENCES

1. J.A. Baker et al January 2007 'The Report of the BP U.S. Refineries Independent Safety Review Panel'
2. HSE Health & Safety Climate Survey tool, 1997