

TITLE: PERSONALISING SAFETY CULTURE: What does it mean for me?

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THE INDIVIDUAL'S ROLE IN DEVELOPING A STRONG SAFETY CULTURE

This paper describes the development and deployment of methods to promote the behaviours which support a strong and sustainable safety culture. Most organizations in hazardous industries have embraced the need for a strong safety culture, and recognize that excellent safety leadership, effective supervision, and high levels of workforce involvement are essential safety culture ingredients (Flin, R et al, 2002; HSE, 1999; HSE, 2001). To support the development of a strong safety culture, various approaches have been taken.

Site-based approaches

When developing safety culture, a typical approach is to conduct some form of safety culture diagnosis at the site or organization level, and develop and implement a plan to address areas for improvement. The unit of analysis is the site or organization. The improvement plan typically includes a need for change in behaviours and practices at different levels of the organization.

Topic-based approaches

There are many different safety culture definitions and models, however there is a degree of overlap between them all. For example, most would agree on the importance of excellent safety leadership, effective supervision, and high levels of workforce involvement. These topics all lend themselves to interventions to address that specific aspect of safety culture – for example supervisor or safety leadership development programmes, and practices designed to encourage and promote workforce involvement such as appointing workforce safety representatives, or implementing a behavioural safety programme.

An alternative approach

Whilst the site or topic-based approaches are appropriate in some circumstances, they do not describe all the individual behaviours required to develop and support a strong safety culture, or specify how these behaviours relate to each other and are mutually supportive across different levels of the organization. Furthermore, site or topic-based approaches do not always lend themselves to integration into the organisation's existing safety management system or human resources systems.

This project, which developed an alternative approach, began with a desire by a UK offshore engineering contractor to progress their current efforts to maintain and develop a company focus on behavioural aspects of health and safety. They wished to build upon their existing good health and safety performance, and the recent issue of a set of company HSE values. Their organisation presented a number of unusual challenges, which any new initiative would have to recognize and overcome, specifically:

- Their company was organized as a set of largely independent contracting businesses, each focused on supporting a major offshore operator
- As each offshore operator has their own existing safety culture, and set of behavioural practices which they expect their contractors to adopt and use, any contractor-led initiative had to complement the customer's culture, systems and practices
- There was little agreement in the contracting organization about who's behaviour had to change, and why. Many managers wanted improved workforce safety behaviour, and vice versa.

For these reasons, it was decided to develop a competency model which described (a) the specific managerial, supervisory and workforce behaviours which supported excellent HSE performance and (b) those which detracted from excellent performance.

DEVELOPING THE MODEL

Three main sources of data were used to develop this competency model:-

1. Existing academic research, which identified leadership behaviours which support workplace safety outcomes (HSE, 2003)
2. Existing industry research conducted by the UK offshore sector's cross-industry Step-Change in Safety group, who developed a set of safety behaviours following a review of 11 offshore fatalities (Step-Change in Safety, 2004)
3. In-company research, to identify specific positive and negative HSE behaviours which had particular relevance to the offshore engineering contractor's organization and operations.

To lead the competency development project, the company appointed an experienced HSE professional into an internal human factors advisor role. It was decided to base the competency model on the behaviours which differentiate those who are more effective at managing health and safety, from those who are less effective.

There is an important distinction between the technical competences necessary to do a job (i.e. the ability to drive a fork-lift truck), and the personal competencies which differentiate between those who are more or less effective in a job. Although a group of fork-lift drivers may all possess the same technical competence, individual differences will exist in how effective they are in achieving their overall job objectives (e.g. safety, housekeeping, efficiency). Table 1 below summarizes the differences between behavioural competencies and technical competences, and how to analyse jobs to derive the behavioural competencies which support superior job performance.

Table 1: Differences between behavioural competencies and technical competences

	Behavioural Competencies	Technical Competences
Focus	People who do the job	Jobs or tasks which people do
Level of Performance	Superior performance	Minimum standard
Outputs	Behaviours which contribute to superior performance	Key roles and tasks. Minimum knowledge, skills and abilities required
Appropriate job analysis methods	<ul style="list-style-type: none"> • Critical incident technique • Repertory grids • Studying documentation • Structured job analysis questionnaire • Observation 	<ul style="list-style-type: none"> • Studying documentation • Observation • Functional job analysis

In this project, the first job analysis method used was critical incident interviewing, (Flanagan, 1954) which asks interviewees to identify "critical incidents" they have personal knowledge of, which led to a good or poor result. In this case the result referred to HSE performance. Incident does not mean accident or loss, it could simply be someone's behaviour in a meeting which supported or undermined health and safety.

The second method was repertory grid technique (Kelly, 1955) which elicits the constructs or attributes which experienced people use to differentiate between good and poor job performers. The technique asked experienced people to think about managers, supervisors or others who they know well, and who are (a)

effective in managing health and safety or (b) less effective or ineffective. By comparing those in groups (a) and (b), it is possible to define the behaviour(s) which differentiate the effective and less effective performers.

An additional input for the model was examination of documentation about the organisation's own HSE Vision and Values, as they wished to make the behaviours required to support the Vision and Values more explicit.

The internal company human factors advisor was trained in the use of the two job analysis techniques, which enabled them to extract the specific positive and negative HSE behaviours from interviews and focus groups held with their managers, supervisors and technicians.

The next steps in model development were to examine the critical incident and repertory grid data, sort the positive and negative behaviours into related groups, and differentiate whether they were behaviours required of everyone on the workforce, only supervisors, or only managers. The wording of behaviours was refined, to aid clarity.

Four sets of positive and negative behaviours were identified for each level in the organization: everyone, supervisors and managers. Each set of behaviours was given a short descriptive label. The resulting overall scheme is shown in Figure 1 below.

Figure 1: Overall scheme of HSE Behaviour Standard

(Figure 1 here)

Figure 1 illustrates how it is only when the appropriate behaviours are displayed by all people in the organization that an excellent HSE result can be achieved. This approach can be contrasted with many "behavioural safety" programmes, which focus largely on workforce behaviours.

The 12 sets of behaviours were further examined, and it became apparent that four common topics ran through the sets of behaviours: standards; communication; risk management and involvement. These topics emerged from the data gathered, and were not pre-determined. Figure 2 illustrates how the sets of behaviours relate to the four topics.

Figure 2: How HSE Behaviours relate to Topics

(Figure 2 here)

By reading across these topics, it is possible to see the mutually-supportive inter-relationship between the sets of behaviours for each group. Similarly, it is possible to identify how a lack of the correct behaviours at any level can undermine the overall result. For example, management efforts to set standards, and workforce efforts to comply can be undermined by the wrong supervisor behaviours.

Figure 3 below is an example of the content of one of the twelve sets of behaviours, and shows the positive and negative behavioural indicators which were derived from the job analysis.

Figure 3: Manager's "Set High Standards" behaviours, with positive and negative indicators

(Figure 3 here)

The resulting competency model, known in this company as the HSE Behaviour Standard, has the following important features:

- research-based
- simple to understand
- defines the positive and negative behaviours which contribute to excellent and poor HSE performance
- shows the inter-relationship between behaviours of managers, supervisors and everyone in the workforce
- includes language and examples which are company-specific
- can be used by individuals and teams to understand their role in developing a strong safety culture

- format can be readily integrated into the organisation's safety management and human resource systems, e.g. induction, selection, training & development, and appraisal

DEPLOYMENT

In the offshore engineering contractor organization, the model was deployed by the full-time corporate human factors advisor. This person worked with individual contract managers, and their largely autonomous businesses, and planned how to deploy the model in each contract. Examples of its use include:-

- Behavioural gap analysis in the contracts, involving workshops with a large percentage of the workforce, with the results being used to focus on improving specific behaviours. For example, one contract found that certain management safety communication behaviours were seldom displayed, so focused on improving these. A year later they re-measured and saw a very significant positive change. In parallel, the numbers of incidents and injuries significantly reduced. Of course, this reduction cannot be wholly attributed to the improvement in management safety communication behaviours.
- The same contract focused on developing the supervisors' behaviours, by recognising and rewarding when the positive supervisor behaviours were displayed
- Another contract worked jointly with their offshore operator customer to (a) conduct a safety culture assessment, and (b) use the output of the safety culture assessment during workshops with 85% of their workforce to develop their own installation-specific version of the HSE Behaviour Standard, which will be deployed via their 2007 HSE improvement plan
- Sharing the HSE Behaviour Standard with key clients at HSE away-days, and jointly working on improving safety behaviour and safety culture
- At a corporate level, the offshore engineering contractor has worked to integrate the HSE behavior standard into their HSE and human resources management systems, including recruitment, selection, induction, management, supervisor and workforce skills training and development, appraisal, contractor selection, and post-incident investigation.

USE ELSEWHERE

The offshore engineering contractor which pioneered this novel approach has been very willing to share their experience with others. Several international organizations have been impressed with the clarity, practicality and simplicity of the HSE Behaviour Standard, and have developed their own versions to support to their efforts to establish or develop their safety culture. The basic format and content of the Standard has remained largely unchanged, however it has been essential to adapt and modify certain elements for use in different national cultures and types of business. The language has also been modified to fit each organisation's style. Some of the behaviours have been changed or modified to reflect current organizational HSE concerns. The examples below illustrate how three of these organizations have adapted and used the generic model for their own specific purposes.

A UK-OWNED MULTINATIONAL OIL AND GAS COMPANY

This company experienced a very serious incident at one of its non-UK sites during 2005. At one of the company's UK sites, an oil and gas separation plant, they wanted to encourage their entire workforce to consider whether various behavioural shortcomings highlighted during the very serious incident might also apply to their site. The HSE Behaviour Standard was modified for this site, and a series of half-day workshops were held for approx 50% of their workforce. Each workshop included a vertical-slice of managers, supervisors, engineers and technicians, and also included key contractors. Prior to the workshop, each delegate completed pre-reading of a summary of the incident report. Within each workshop the delegates then used their HSE Behaviour Standard to specify the managerial, supervisory and workforce behavioural shortcomings revealed by the incident investigation. They then conducted a behavioural gap analysis of their own site, which revealed the manager, supervisor and everyone HSE behaviours which were regularly demonstrated, and where room for improvement existed. The results were collated and analysed, and improvement actions were built into site HSE plans. At the end of each workshop. each delegate also made a behavioural commitment specifying what they would personally do to prevent a similar incident occurring on their site, and sent their commitment on a postcard to the senior manager of the business. This site has also built their HSE Behaviour Standard into their employee and contractor induction process and used the behaviours as a focus for monthly HSE communications.

AN INTERNATIONAL NUTRITIONAL PRODUCTS MANUFACTURER

This Dutch-owned firm has a nutritional products division based in Switzerland, with manufacturing sites around the world. They were planning to conduct a Safety Culture Maturity®¹ assessment at each of their sites, and wanted to prepare a “self-service cafeteria” of behavioural practices which could be used to strengthen key aspects of the site’s safety culture, as diagnosed by the site assessment. A total of 22 behavioural practices were prepared, including a company-specific HSE Behaviour Standard. This is now being deployed, and one site management team has used their HSE Behaviour Standard to structure discussion within the team on how they need to change their own behaviour to influence their site safety culture more effectively.

AN AUSTRALIAN MULTINATIONAL ENERGY COMPANY

This organization wanted a simple model to help structure their efforts to improve their safety culture. They had recently conducted a safety culture survey in their Operations division, which identified a need to improve. The results of some recent incident investigations also supported this view. This organization developed their own version of the HSE Behaviour Standard, which they called “Our Safety Culture”, and included organization-specific issues and examples. They also ensured that key behaviours relevant to helping them to become a high-reliability organization (Weick, 1999) were integrated into their model.

CONCLUSION

This paper described an alternative approach to developing an organisation’s safety culture, which is based on the mutual inter-dependence of the behaviours of managers, supervisors and workforce. The HSE Behaviour Standard which was developed for this purpose has proved to be easy to understand, and practical to deploy by internal company HSE specialists. Its flexible nature means it can be integrated into existing management systems, and thus exert a long-term influence over the maintenance and development of a strong safety culture.

Although the basic structure has remained largely unchanged across several organizations, all those involved consider it is essential to adapt and validate the model in each organization, thus helping to ensure its adoption and use as “our” HSE Behaviour Standard, rather than someone else’s.

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FIGURES

Figure 1: Overall scheme of HSE Behaviour Standard



Figure 2: How HSE Behaviours relate to Topics

Topic	Everyone	Supervisors	Managers
Standards	Follow rules	Deliver HSE excellence	Set high standards
Communication	Speak up	Encourage the team	Communicate openly
Risk management	Be mindful	Promote risk awareness	Concern for each other
Involvement	Get involved	Involve the team	Proactively involve

Figure 3: Manager's "Set High Standards" behaviours, with positive and negative indicators

