



Developing High-performing Cultures by Changing the Way People Behave

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Introduction

Black & Veatch is a global engineering, consulting and construction company that is proud of its health and safety record. Black & Veatch set a target of achieving zero incidents and injuries across all of its business operations in 2002, but Black & Veatch subsequently found that its health and safety performance had reached a plateau. The company already had a robust safety management system, a trained and competent workforce and an in-house team of safety professionals but, in order to achieve the desired step-change in performance, something different was required. Advanced Risk Management Solutions Ltd had been selected to assist the leadership team with the development of a bespoke behavioural safety scheme that would meet the specific needs of the business.

A Steering Group was set up to develop the new scheme. The aim of the Group was to look beyond training, awareness and the basic competencies to do a safe job and to focus instead on the human aspects of safety. The heart of the approach was to improve understanding of why people occasionally make mistakes and, more importantly, often chose to work unsafely when there is potentially so much to lose. The Steering Group applied behavioural science to try to address this situation and to provide a simple, yet effective, tool for management and the workforce to help deal rapidly with these issues. The result was 'BOSS', or Behaviours On Safe Sites.

This paper describes the approach the Black & Veatch Steering Group adopted and the key components of BOSS that have been effective in improving the company's safety culture.

BOSS Behavioural Philosophy and Principles

From the beginning, the Black & Veatch Steering Group was determined to develop a behaviour-based approach to safety that was led from the top and was driven by the workforce. To this end, it was crucial that BOSS was not simply about reducing risk-taking behaviours on site but also included a strong focus on the behaviour of line management in every area of the business.

The Steering Group recognised that the changing of behaviours and creating of habits could only be achieved by dealing with a few behaviours at a time. This approach of focussing on the few and making certain that these were right 100% of the time, was

based on Gladwell's [1] 'power of context' theory and social epidemics, and the 'broken window' theory of crime developed by Kelling and Wilson [3].

In his book 'The Tipping Point', Gladwell refers to social epidemics in terms of changing people's behaviours. Gladwell identifies three rules of epidemics as:—

- The 'law of the few' or, in health and safety terms, the behaviour of business leaders in relation to the success of a strong safety culture.
- The 'stickiness factor': the specific content of a message that renders its impact memorable. Behavioural science was applied to create memorable training sessions that were used to launch BOSS.
- The 'power of context': human behaviour is sensitive to and strongly influenced by its environment. It requires a focus on a few highly-visible, safety-critical behaviours that can become 'safe habits' in the short term and can therefore influence other behaviours. For example, Gladwell describes 'zero tolerance' efforts to combat minor crimes (such as fare-evasion and vandalism) on the New York Subway, that led to a rapid decline in other more serious crimes city-wide.

The concept of 'zero tolerance' originates from the 'broken window' theory of crime developed by Kelling and Wilson. Kelling and Wilson indicate that a successful strategy for preventing crimes such as vandalism is to fix the problems (or broken windows) when they are still small. By applying 100% compliance and repairing the broken windows within a short time (such as within a day or a week), the tendency is that vandals will be much less likely to break more windows or do further damage.

When Kelling was employed by the New York Transit Authority as a consultant, he urged them to put the broken windows theory into practice. Instead of concentrating on serious crime in the subway, Kelling focussed on removing graffiti and eliminating fare-evasion. The Authority Director was responsible for overseeing a multi-million dollar project to rebuild the subway system and upgrade the trains, identified that "in New York the graffiti was symbolic of the collapse of the system". The graffiti cleanup and zero tolerance on fare-evasion on the subway started in 1984. Between 1990 and 1994 arrests for minor offences that had gone unnoticed before, went up fivefold.

The strategy applied in the subway was taken up by the New York City Police Department. Officers were told to concentrate on a few, minor, seemingly insignificant, quality-of-life crimes which were seen as the tipping points for more serious crime. The police applied the same 100% compliance or 'zero tolerance' approach and Gladwell reports that, within five years, murders in New York City had dropped by 64% to 770 and total crimes had fallen by almost half to just under 355,900.

Gladwell refers to the broken windows theory and the 'power of context' as one and the same — since they are both based on the premise that an epidemic can be reversed by tinkering with the smallest details of the immediate environment.'

BOSS follows this approach, insofar that it focuses on a limited number of safety-critical behaviours. Those that were identified by the Steering Group relate to:

- behaviours of line management;
- site-based safety-critical behaviours associated with:
 - use of hand tools;
 - unloading deliveries and vehicles;
 - lifting operations;
 - working at height;
 - housekeeping.

However, the mechanism BOSS adopts for achieving the desired behavioural change is based on the role of consequences in influencing the choice of behaviour. In addition to applying Gladwell's theory of the 'power of context', BOSS adopts the positive

reinforcement philosophy (described by Aubrey Daniels [2]) to sustain the desired change. The Steering Group recognised that positive reinforcement of appropriate behaviour was the only approach capable of creating 'want to' or habitual behaviours.

Daniels states that positive reinforcement causes people's behaviour to improve because 'a desired, meaningful consequence follows the behaviour'. BOSS also relies on positive reinforcement to generate discretionary effort in order to encourage the development of a high-performing culture within Black & Veatch.

BOSS encourages line managers to give positive recognition to those who raise safety concerns and possible areas for improvement. Everyone is empowered to say 'no', not to tolerate any unsafe situations and to report concerns to supervisors.

The principles of positive reinforcement and power of context theory underpin BOSS and are fundamental to the BOSS deliverables described below.

The Four Essential Components of BOSS

Safety Leadership

BOSS recognises the immense value in focussing on the behaviour of senior and line management in order to drive the safety culture. It is essential to deal with this aspect of the culture development programme first — so as to provide the foundations from which worker behaviour can be tackled 'out in the field'. Black & Veatch leadership and management were given training and coaching in the principles of developing a high-performing safety culture and on the impact their approach has on safety.



Safety leadership means more than simply complying with the rules to set the right example. It is about knowing where and how to exert influence throughout the organisation in order to achieve maximum benefit to the safety culture. It is important that through effective leadership all safety principles and practices are aligned to achieve the desired effect of decreased risk taking, reduction in incidents and hence increased profitability.

Traditionally, safety leadership has been predominantly about managers. However, in a broader and more contemporary view, the BOSS policy states that leadership in safety can (and should) come from anyone in a position of influence, irrespective of that

person's position in the business. The key point here is to recognise that leadership behaviour indirectly affects the behaviour of others. In effect, if leadership behaviour is not supportive of safety, it represents a 'broken window' for the organisation.

BOSS leadership training centred on the key role of influential people in the organisation and how their own personal behaviour (and their commitment to change) could effectively bring about a significant change in the actions of others throughout the business.

The company leadership identified key values and behaviours during the development of BOSS as listed below.

Leadership Values	BOSS Leadership Behaviours
We will operate a fair and just culture	Never walk past an unsafe behaviour or hazard
We shall recognise safe acts and behaviours	Positively reinforce safe behaviours
We shall always take time to do things safely	Promote input from the workforce during site visits
We will not accept unsafe acts or conditions	Provide regular informal feedback on safety performance
	Senior management makes site safety visits monthly

BOSS focuses on developing consistent and strong safety leadership behaviours so that leaders and managers lead by example and positively reinforce safe behaviour at every opportunity.

Performance Management

People typically deliver less than their true capability in their day-to-day jobs — this is as true of safety performance as it is of productivity and quality. Performance management is about getting the best out of people by encouraging them to apply their full potential in the workplace.

Applied to safety, performance management has two key areas of focus: in simple terms, these are *what gets measured* and *what gets reinforced*. Everybody requires clearly-defined behaviours and needs to understand the performance consequences that will follow.

Effective performance management also provides the key metrics by which the development and performance of the safety culture can be accurately evaluated.

BOSS introduces on-site performance management techniques that enable Black & Veatch to recognise strengths, to reward efforts and to focus attention on what really matters in safety – behaviour.

BOSS incorporates performance management through the following measures:

- on-site observational tours;
- management scorecards and audits;
- personal safety goals.

The recording of behaviours through the BOSS observational tours is based on five safety-critical activities, or 'broken windows'. By focussing on specific topics, the aim is to raise personal awareness — leading to sustained improvement in safety performance in those topic areas. The topics will be changed from time to time, when there has been

a period of sustained compliance. However, the intention is that measurement and feedback will always relate to behaviours that are clearly described and can be seen by everyone.

Black & Veatch also introduced Health & Safety 'Golden Rules' at the same time as BOSS. These Rules underpin the five safety-critical activities (or broken windows) and represent the core unsafe behaviours, the correction of which, are seen by Black & Veatch as being crucial to the core safety requirements of the business.

At the same time that BOSS was being developed by Black & Veatch in the UK, a new global approach to capturing data on safety performance management was being developed by the safety teams in the United States. Data on the percentage of 'at-risk' and 'safe' behaviours witnessed on observation tours are electronically captured on hand-held computers. Data are collated centrally using a web-based tool and up-to-date reports are available to management. This provides for a powerful feedback mechanism that can be a source of timely positive reinforcement for those working on the site. The system is also used to track the activities of project teams (in respect of observations and inspections) on a weekly basis. This provides US-based safety personnel with the opportunity to track project-specific safety performance and to compare it with the frequency and quality of behaviour-based observations undertaken by the project leaders.

Coaching Skills

The BOSS Steering Group recognised that some of the managers and line leaders would not necessarily make good safety coaches. The Group identified a need for additional competence and skills training in order to develop the safety coaching capability throughout the organisation, with the aim of sustaining the desired high-performing safety culture.

Typically the managing style is aimed at establishing standards and the consequences of non-compliance. BOSS recognises that, to get the best out of employees, it is essential that the coaching style adopted is a 'transformational' approach, that also focuses on the recognition and reinforcement of good practices.

BOSS aims to help line management to develop their skills in this area and to do so within a context of a better understanding of human behaviour. Once managers are comfortable with the idea that risk-taking is a natural aspect of human behaviour that must be minimised by smart management, they are in a better position to coach others to encourage routine safe working practices. Recognition of safe behaviours and coaching are fundamental to the continued success of BOSS.

BOSS does not require managers to thank people continually for demonstrating safe behaviours but it does require managers and supervisors to recognise individuals who:

- improve their safety performance following coaching;
- continually demonstrate safe behaviours;
- report or stop work that is unsafe or individuals who are undertaking at-risk behaviours;
- raise health and safety suggestions or concerns;
- participate in health and safety initiatives and consultation meetings;
- provide comments on method statements and at risk assessment briefings.

The recognition that an individual receives depends on the situation and the person concerned: it may include any of the following:

- a simple thank you;
- a letter from the Project Manager;
- a letter from a Director.

In addition to the recognition of safe behaviours teams who adopt safe behaviours may also be rewarded. The types of rewards must be appropriate and developed by the project or site manager following consultation with the project team including, where appropriate, the work force. The reward mechanisms are designed to:

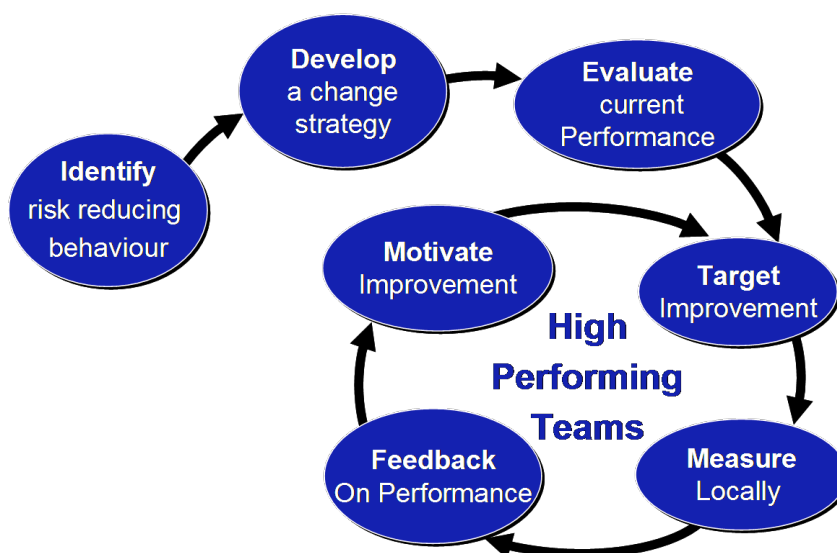
- be fair;
- recognise team performance;
- recognise individual performance;
- focus on quality by placing a higher emphasis on suggestions that lead to significant improvements in safety — rather than simply on the number of suggestions submitted;
- focus on improvement.

Safe Site Behaviours

The fourth component, 'Safe Site Behaviours' provides for a particular focus on risk-taking behaviour that can be addressed when groups of workers work together in team-based situations or work alone.

The safety culture within any organisation is chiefly reflected by the '*behavioural norms*' that occur within its operations. By definition, 'behavioural norms' are the routinely-practised behaviours and as such are habitual. Where safety violations occur, they represent unsafe habits which can be very difficult to change. They are persistent workplace practices that, despite best efforts, never seem to go away completely.

Behavioural Safety



BOSS acknowledges that performance in health and safety is largely the product of behaviour. BOSS tackles management behaviours so that they support safety and drive the culture. BOSS also focuses on the on-site safety critical activities and the behaviours associated with keeping everyone healthy and safe in difficult working environments.

BOSS, developed in consultation with Advanced Risk Management Solutions Ltd, is based on a clear understanding of what works and what does not work. Many other approaches are based on what seems like a good idea to create behavioural change but some lack the application of sound behavioural science techniques. This can be seen in attempts to change dozens of behaviours at the same time. This is difficult to achieve as

dealing with habits that are highly resistant to change requires a determined and continued focus on a few at a time to rectify.

Broadening the Application of BOSS to Cover Office-based Design Staff

BOSS is now firmly embedded on Black & Veatch construction sites. The next phase of BOSS is to encompass design personnel as well as site staff. This approach may not suit all businesses but is applicable to those such as Black & Veatch, which have a large integrated workforce covering both design and construction activities.

When BOSS was being launched on Black & Veatch construction sites, the design teams expressed an interest and wanted to get involved. A 'BOSS for Designers' Working Group was established, including the director responsible for engineering design, chief engineers, lead designers, safety professionals and engineering graduates.

The observational techniques used on sites to encourage positive interventions and to monitor performance do not easily translate to the design office. Therefore, the main focus of the Working Group was to look at the indirect behaviours required from design staff.

A behavioural scorecard has been developed, together with a process for monitoring compliance, which is currently being piloted. The Working Group recognised that defining the key safety-relevant activities of designers and setting up a system to encourage recognition should succeed in influencing the safety on construction sites.

'BOSS for Designers' will be launched later this year, once the results of the pilot are received. The launch is planned to be similar to the roll-out carried out on Black & Veatch construction sites, using staff volunteers to deliver the BOSS message.

Extending BOSS to designers represents a significant step forward from traditional behavioural safety schemes. By bringing BOSS into the design office, designers are being asked to identify their own behaviours which could indirectly influence the safety choices made by operational staff on construction sites.

For Black & Veatch's integrated design and construction teams, it is possible, through BOSS, to ensure that the entire project team has collectively followed a uniform process that reduces risk and enhances safety performance from design development through to completion. Changing behaviours and creating habits will ensure that people will work safely and that the change is sustainable.

References:

1. Gladwell (2000). *The Tipping Point*. Abacus 2000 Reprinted 2008
2. Daniels (2000). *Bringing out the best in people*. McGraw Hill 2000
3. Kelling and Wilson (1982). *Broken Windows*. The Atlantic March 1982

Appendix

Outline of BOSS Training Programmes

Directors and managers attend a one-day session aimed at explaining the crucial role that management play in shaping the safety culture and how they can maximise their own personal effect on it. This session also introduces the principles of safety coaching and performance management and the need for continuous improvement and the development of a high-performing safety culture.

The overall objective of this training session is to engage senior management in the culture development programme and ensure that they actively participate in and support the management.

The training objectives for this course include:—

- Senior management to gain an appreciation of why people make the choices that they do and why this can contradict the common desire for safety.
- Understanding how managers as safety leaders play a crucial part in shaping the safety culture within the organisation.
- Developing an understanding of what it takes to deliver clear and consistent messages on safety throughout line management and what this looks like in practical terms.
- Understanding effective Performance Management techniques for safety, with the emphasis on what gets measured and how we respond to those measures.
- Appreciating the importance of effective coaching for safety and how to increase the likelihood of getting the best out of others – especially other managers.
- An introduction to the concepts of behaviour modification and team-based safety – the creation of ‘safe habits’ in construction.
- Agreeing a simple but effective ‘personal behaviour plan’ that will assist the business in creating a high-performing safety culture.

In addition, Advanced Risk Management Solutions developed with Black & Veatch a two-day ‘Behavioural Safety for supervisors’ course which is delivered to all site supervisors, together with an *additional* one-day coaching skills course for supervisors and site managers.

The overall objective of this training is to give supervisors and site managers a clear understanding of where risk-taking behaviour is likely to occur and, more importantly, why it occurs. It gives them the tools necessary to exert a positive and sustained influence over the behaviour of those that they are supervising.

The training objectives for this course include:

- Understanding why trained and competent staff may still be tempted to take risks in their behaviour
- Anticipating the safety-critical behaviours that may be conducted unsafely on their sites.
- Appreciating the role of safety coaching in the workplace.
- Identifying the key coaching qualities necessary to be an effective influence over others and to promote a positive performance culture.
- Drawing on their key personal and practical experiences to improve significantly their ability to influence others around them.
- Encouraging high levels of safety-critical behaviours and a significant reduction in risk taking and the associated near misses and injuries.

A new course is being developed for Black & Veatch’s design personnel — this is programmed to be launched later in 2009.