Safety Culture & Effective Leadership – Understanding & Implementation

By Adnan Mahmood, Principal Consultant, Risktec Solutions DMCC, Dubai, UAE

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On January 28, 1986, the space shuttle Challenger exploded 73 seconds after lift-off from Kennedy Space Centre, killing all seven astronauts aboard. A field assembly joint in the right-hand solid rocket booster had failed leaking hot combustion gases which, in turn, breached the liquid hydrogen vessel in the shuttle's external fuel tank assembly. The associated liquid oxygen vessel failed shortly thereafter, and the resulting catastrophic explosion destroyed the shuttle.

A subsequent investigation by a presidential commission revealed significant weaknesses in NASA's safety culture, which had set the stage for this disaster. These weaknesses included:

1. The tolerance of a situation in which production pressures - in this instance, the emphasis on maintaining an aggressive launch schedule - overshadowed safety concerns.
2. The gradual acceptance of increasing levels of damage to the field joints, as determined from post-launch inspections, as being a normal occurrence, even though this was in violation of design specifications and established safety requirements.
3. A can-do attitude, based upon past successes, which limited NASA's sense of vulnerability.
4. A hierarchical structure and attitude that limited both the free exchange of information (especially disparate opinions) and the credibility given to the technical experts who were lower in the NASA structure or in contractor organisations.

The loss of the Columbia space shuttle, 17 years later in February 2003, demonstrated additional flaws in the NASA safety culture, including the failure to learn and apply the painful lessons from the Challenger accident. **Many of the safety culture problems identified in the Challenger investigation had persisted.**

A number of other major disasters including Piper Alpha, Chernobyl, Texas City and more recently Fukushima and Deepwater Horizon have also highlighted the impact of organisational factors on safety performance, with numerous inquiries identifying 'safety culture' as having a definitive impact.

Investigations of those incidents have revealed that complex systems broke down disastrously, despite the adoption of the **full range of engineering and technical safeguards**, because people failed to do what they were supposed to do. These were not simple, individual errors, but malpractices that corrupted large parts of the social system that makes organisations function.

Safety involves more than infrastructure, people get hurt despite good infrastructure. Bad things can happen to good people. Rules, processes and equipment can have little impact on behaviours, actions, and choices people make as they perform their jobs and related tasks. Also why is it that we see repeat incidents having similar causes with similar lessons learned?

Professor Andrew Hopkins, an internationally-renowned author and consultant in the field of industrial safety and accident analysis, states: "Major accidents can frequently be traced to failures in safety management systems. Even when enormous effort has gone into perfecting these systems, it seems they remain fallible. It is largely for this reason that the concept of safety culture is now receiving widespread attention. This is not to say that systems are irrelevant, but rather that they *will function better in organisations which have developed a culture of safety*."

In the drive to reduce risk, historically the focus was on improving technical standards and procedures. This can only go so far in reducing the number and severity of incidents.   In more recent years, as risk management became more sophisticated, further gains were made thanks to developments around creating and auditing compliance with structured management systems including HSE MSs. In terms of approaches which might reduce risk still further, the latest thinking is in the area of organisational culture and human behaviour.

A simple analogy is driving: design a safe car, have rules to be able to operate it safely, then drive it safely.

Understanding safety culture is part of the journey towards ensuring adequate and appropriate risk mitigation.

Safety experts now estimate that 80-90% of all industrial accidents are attributable to 'human factors'. It is now widely accepted that the most effective way to reduce accident rates is to address the social and organisational factors.

So how do we define safety culture?

Safety culture, as a phrase, was first used by the International Atomic Energy Agency (IAEA) to describe the issues at Chernobyl at the time of its major incident.

The IAEA defines safety culture as "that assembly of characteristics and attitudes in organisations and individuals which establishes that as an overriding priority, safety issues receive the attention warranted by their significance."

According to OSHA, "Safety cultures consist of shared beliefs, practices, and attitudes that exist at an establishment. Culture is the atmosphere created by those beliefs, attitudes, etc., which shape our behaviour."

UK Health & Safety Council defines safety culture as "the product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine commitment to, and the style and proficiency of, an organisation's health and safety management".

A culture develops as a group identifies certain attitudes and behaviours that provide common benefit to its members, in this case, attitudes and behaviours that support the goal of safer activities or operations. As the group reinforces such attitudes and behaviours, and becomes accustomed to their benefits, these attitudes and behaviours become integrated into the group's value system. In an especially sound culture, deeply held values are reflected in the group's actions, and newcomers are expected to endorse these values in order to remain part of the group.

What does a safety culture look like?

It is very difficult to measure accurately. It is seen by the way things are done around the organisation. It is heavily influenced by management and it is constantly changing.

The way culture works is that it shapes what people perceive, what they believe to be important and critically what is possible within that environment. This means that all cultures are self-fulfilling. Culture, in effect, is like the organisation's DNA. Over time the members of a culture come to act in a manner that is consistent with the shared view of reality, values, and possibility.

You can judge whether a company has a good Safety Culture from what its employees actually *do* rather than what they *say.*

A large number of factors contribute to whether you have a good or a bad safety culture. The list below covers the ten main factors to indicate whether you have a good safety culture (Refs. 1 and 2):

1. Visible management commitment
2. Good safety communication
3. Safety over productivity/profit
4. Learning organisation
5. High participation in safety
6. Sufficient health and safety resources
7. Low level of risk-taking behaviours
8. Trust between management and frontline staff
9. Good contractor management
10. High levels of competency

Earlier we saw an example of a poor safety culture; now let us examine something different. The construction phase of the London Olympics 2012 is an example of a good safety culture (Ref. 3). It was an iconic project, attracting world-class workers and contractors from across the construction industry, and providing a once-in-a-lifetime opportunity for health and safety practitioners to learn from what was achieved.

The development of a culture that values workers, fosters fairness (i.e. 'just' consequences for unsafe behaviours) and invests effort in actively managing relationships and recognising and rewarding workers' contributions helped to increase health and safety trust during the 'Big Build'. This environment encouraged positive worker attitudes towards health and safety, and an appreciation of the importance of usable procedures and positive peer group attitudes. This in turn influenced the attitudes that also relate to other areas, so that positive attitudes and actions in one area could affect other areas, with a collective effect.

The outcome of the project was an accident frequency rate onsite of just 0.16 per 100,000 hours worked – far less than the building industry average of 0.55, and less than the all industry average of 0.21. *There were no work related fatalities during the whole London 2012 construction programme.*

The practices used on the Olympic Park were not unusual; many of the initiatives are familiar and even typical. However, the key difference was the persistent effort devoted to leadership and engagement of staff, such that the desired behaviours and attitudes became embedded on site.

Leaders of the Olympic Park were aware of the risks of lapsed attention to health and safety, and constantly reiterated its importance and relevance to workers, investing effort into refreshing communications. Hence these initiatives and the style of implementation allowed the Olympic Park safety culture to develop.

London 2012 could be considered exemplary. The Olympic Park has demonstrated that it is possible and feasible to develop high standards of health and safety, and a culture that supports this aspiration

It is the role of our Safety Leaders to create our Safety Culture

Now let's see what is effective safety leadership?

Safety leadership is defined as the process of interaction between leaders and followers, through which leaders can exert their influence on followers to achieve organisational safety goals.

Another definition can be: *The demonstration of safety values through the creation of a vision and the promotion of wellbeing through the art of engagement, honesty and discipline.*

What are the key characteristics of leadership behaviour? Clear leadership is one of the top priorities for the establishment of a positive safety culture. Safety experts agree that there are ten safety leadership principles that a leader should not ignore, and which are likely to promote a positive safety culture (Refs. 4, 5 and 6):

1 Safety as a Value (not Priority)

Effective leaders promote and demonstrate Safety as a **VALUE** - not as a priority. Safety is a **PRIORITY** when working safely is a condition of employment, your boss insists you do it and you do what you are asked to do. It affects an individual's behavior. Safety is a Value when you work safely without being told to do so. It is at the centre of who you are; it defines who you are and the way you work and live. It affects how you think.

Going from priority to value is a process. It takes time and effort. (*It is what one does when no one is watching!)*

It is the role of safety leaders to create the organisation's safety culture by projecting its goals and vision, outlining safety expectations and mapping the desired state. An effective leader truly believes all incidents are preventable.

2 Visible Management Commitment to Safety

This is leading by example. It is important that senior management demonstrate visibility and repeat their commitment to safety throughout all areas of the organisation. For example, if senior management fails to challenge unsafe behaviours they unwittingly reinforce the notion that this behaviour is acceptable to the organisation. Senior management decisions and actions must match their words – this creates a shared vision of the importance of safety to the organisation.

3 Visibility around Safety

It is good to develop a habit of personally conducting safety walkabouts. This demonstrates commitment and leaders will become personally aware of the real safety conditions in their area. These walkabouts will also provide an opportunity for managers to meet their teams in their work areas and to have proactive discussions regarding safety.

4 Safety Reporting

A positive safety culture requires effective reporting from staff of frontline safety issues and problems, e.g. accidents, near misses and safety concerns. Communicating a problem or concern is only one step on the route towards a good safety culture. It is important that feedback mechanisms are in place to respond to the reporter (if required) regarding any actions taken.

Effective safety leaders respond to all incidents in a positive, learning way. They lead teams who undertake prompt and thorough investigations of all reports (accidents/incidents/near misses), identifying root causes and implementing corrective actions.

This sends a strong message that knowing about anything that goes wrong is vital to creating the conditions necessary to eliminating the next injury. It also sends a clear message that management views safety performance as important as other business objectives.

5 Staff Involvement

Active employee participation is a positive step towards preventing and controlling hazards. Ownership for safety can be improved by providing effective training and providing forums for employees which assist in getting them to be personally responsible for areas of safety.

It should be made easy for staff to report concerns about decisions that are likely to affect them and feedback mechanisms should be established.

6 A Learning Culture

All employees should be involved in learning by contributing ideas for improvement, and should be encouraged to become aware of what a good safety performance actually means in terms of their own jobs.

The existence of a learning culture enables the organisation to identify, learn and change unsafe conditions and behaviours.

7 Recognition

A safety leader will give recognition to the delivery of good safety performance, e.g. recognise the achievements of employees who improve safety in the organisation, including those who voluntarily contribute to safety.

8 An Open Culture

Employees should feel that they are able to report issues or concerns without fear that they will be personally blamed or disciplined as a result. Leaders should demonstrate care and concern towards employees and should have an open door policy in place to demonstrate this.

9 Effective Communication

Effective communication from management to staff is vital for the success of safety leadership. This can be achieved by:

- A visible safety policy.
- Emphasis on safety related issues and policies via staff communication systems, e.g. memos, newsletters, messages from top management, quarterly reports, annual reports, safety sheets.
- The communication of major accidents.

Communication systems should be in place within the organisation for the effective transfer of safety and health information between individuals, departments, work groups and teams.

10 Safety Management System

Organisations should have effective systems in place for the management and co-ordination of safety. This should be led by the most senior person in the organisation, with the support of the senior management team and safety professionals (if required). Objectives should be set to monitor the performance of the system. Outcomes should be communicated to all staff within the organisation at regular intervals.

The leader who truly believes that all incidents are preventable is likely to fully commit to that goal. Unfortunately, however, management of many organisations has, too often, missed demonstrating true commitment to safety.

Sometimes the problem stems from an incorrect understanding of the difference between personal safety and process safety.

The traditional 'accident pyramid' model mixes together personal safety and process safety. This is not very helpful because it implies holding the handrail will prevent an explosion.

Today it is a far more useful concept to view the situation as two separate pyramids with some overlap. The two-pyramid model is important – it provides a reconceptualization that is far more consistent with the realities of major hazard facilities, and it focuses effort appropriately.

Otherwise if management's mental model is that personal safety initiatives will prevent major accidents, then could adverse events result? Moreover, what message is really being sent to staff by rolling out an occupational safety initiative at a facility where there are leaking pipes?

Please don't take me wrong… Having a mind-set to hold a handrail is not in itself a bad thing – it's simple, costs nothing and may prevent a fall, but is it really rational to assume that this will prevent a pipeline leak?

Disasters don't happen because someone slips down the stairs or scalds their hand from a coffee cup spill. They result from flawed ways of doing business that accept poor risk control. Over the years, many organisations have mistakenly interpreted improving personal injury rates as an indication of acceptable process safety performance.

Leaders must understand this difference. If they don't, they cannot focus on the right things. If they don't focus on the right things, why should anyone else? The best leaders focus intensely on what they know is right and what needs to happen. Others see this and know what the leader cares about. This creates employee engagement and loyalty, and in this environment, employees choose to do the right thing as well.

It follows that if we want to reduce the risk of major accidents, we must identify the precursor events that are specific to these accidents and set about reducing them in number.

In the process industries, leaders have to focus on process safety when allocating resources and making decisions, that any cost-cutting is managed effectively, that bonuses are not solely tied to personal injury metrics – and that the plant is properly designed, operated and maintained by competent personnel.

Personal safety-based initiatives should be viewed as one part a balanced approach to risk management, based on a clear understanding of all risks faced by an organisation.

Furthermore, what works for one company or location in achieving safe operations may not be applicable to another. For example, the portfolio of risks present for a major hazard site such as a refinery will be very different to a manpower intensive environment like construction site, as will the way in which those risks are managed. It would be reasonable to suggest that the former will require both occupational and system safety approaches, whereas the latter will be primarily focused on occupational issues.

As a result, different leadership is required today to effectively move an organisation along the 'Bradley Curve' of safety culture to achieve interdependence and to successfully integrate HSE processes. This leadership requires less over-the-shoulder management of employees and more freedom for smaller groups of individuals to work independently on tasks. Employees then increasingly assume a mind-set

and behaviour of 'being a leader' as opposed to 'needing a leader.' High levels of organisational success come from such a combination of formal and shared leadership. In fact, shared leadership enables organisations to progress along the Bradley Curve more rapidly. The more leadership that workers assume and demonstrate across various teams within the organisation, the more interdependency is achieved to enhance HSE as well as other functions.

Conclusion

Safety involves more than infrastructure, people get hurt despite good infrastructure. Systems, engineering safeguards, protective devices will function better in organisations which have developed a culture of safety.

Safety culture embodies the value placed on safety and the extent to which people take personal responsibility for safety in an organisation. Safety culture is often described as the 'personality' of an organisation, as it is a shared value of safety. A positive safety culture exists when employees understand the importance of safety and exhibit positive safety behaviours. Examples of positive safety behaviours include wearing personal protective equipment without being asked, completing risks assessments for all jobs and reporting all incidents. If an organisation has a negative safety culture, safety may be seen as unnecessary and this might lead staff to have poor safety practices. Negative safety behaviours include taking shortcuts or choosing to ignore safety hazards.

Safety leaders inspire others to have positive attitudes towards safety by setting a good example of safety and rewarding staff for good safety behaviours. If safety leaders are consistent they can influence the safety climate and over time have an impact on the safety culture.

It is recognised that leadership is important in the creation of a culture that supports and promotes a strong health and safety performance of an organisation. The effective team leader is vital in inspiring employees to a higher level of safety and productivity, which means that they must apply good leadership attributes on a daily basis.

A core characteristic of an effective leader is to challenge and improve the systems and the culture. Effective leaders don't just assume that because systems have been put in place everything will be fine. Their mind-set is one of 'chronic unease' - they are preoccupied with the potential for failure and the possibility of a major accident, not solely on commercial matters, lost time injuries or climate change, for instance. They continually ask searching questions of themselves and their organisation to get a feel for whether the right things are happening.

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