

Safety Culture: “What Is At Stake”

I. What Is Safety Culture?

The UK Health and Safety Executive defines safety culture as “. . . the product of the individual and group values, attitudes, competencies and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety programs.”⁽¹⁾ A more succinct definition has been suggested: “Safety culture is how the organization behaves when no one is watching.”

Every organization has a safety culture, operating at one level or another. The challenges to the leadership of an organization are to: 1) determine the level at which the safety culture currently functions; 2) decide where they wish to take the culture; and 3) chart and navigate a path from here to there.

CCPS, in its new Guideline book *Risk-Based Process Safety*, has included safety culture as an element in its updated process safety management model. This white paper is based upon the concepts included in the safety culture chapter in this new Guideline.

II. Why Is Safety Culture Important?

Management systems and their associated policies and procedures depend upon the actions of individuals and groups for their successful implementation. For example, a procedure may properly reflect the desired intent and be adequately detailed in its instructions. However, the successful execution of the procedure requires the actions of properly trained individuals who understand the importance of the underlying intent, who accept their responsibility for the task, and who appreciate that taking an obviously simplifying but potentially unsafe shortcut would be, quite simply, wrong.

The values of the group (e.g., corporation, plant, shift team) help shape the beliefs and attitudes of the individual, which in turn, play a significant role in determining individual behaviors. A weak safety culture can be (and likely will be) evidenced by the actions and inactions of personnel at all levels of the organization. For example, the failure of a critical interlock might have been caused by the mechanic who failed to calibrate the pressure switch and falsified the maintenance records. Alternatively, it might have been caused by the plant manager who denied the funding requested to address staffing shortages in the instrument department.

Audits too frequently reveal ostensibly complete, sometimes sophisticated, management systems within which one or more elements are falling well short of achieving their desired intent. Previously, we might have attributed such failures to a general concept of “lack of operating discipline.” Certainly, the failure to maintain high standards of performance might be a contributor to the problem. However, deficiencies in other safety culture features likely contributed to the situation.

Industry has gradually accepted the importance of identifying the management system failures that lead to incidents and near misses (i.e., identifying root causes). For example, let us suppose that an incident occurred because a control room operator, leaving at the

end of the shift, failed to alert the oncoming operator of a serious, off-standard condition in the process. This problem might be diagnosed generally as a communications problem, with a specific root cause identified as “Communications between shifts less than adequate.” Perhaps, however, perfunctory shift turnovers are the rule rather than the exception, and this circumstance is generally known to supervision. In this circumstance, another root cause related to supervisory practices, “Improper performance not corrected,” might be identified.

This analysis so far leaves a number of questions unanswered, such as “Why do operators shortcut the turnover process and why do they feel comfortable in doing so?” or “Why do supervisors tolerate a practice that jeopardizes the safety of the facility?” We can attempt to answer these questions by seeking to understand the values, beliefs and attitudes that shape individual actions and inactions (i.e., by seeking to understand the safety culture). By identifying and addressing the pathologies within the safety culture (or, more appropriately, by proactively seeking to maintain a culture free of such weaknesses), we are effectively addressing the root causes of what we typically regard to be the root causes of safety performance problems.

Regardless of whether one is seeking to establish a new safety management system, repair an existing underperforming system, or fine-tune a basically sound system to achieve higher performance, it is the actions or inactions of the individual working within the system that can ultimately be the limiting performance factor. Creating and sustaining a sound safety culture can be a decisive factor in determining the performance of the individual and the system.

III. Who Is Responsible for Safety Culture?

It has been suggested that “...the only thing of real importance that leaders do is to create and manage culture...”⁽²⁾ The leadership of an organization has the primary responsibility for identifying the need for, and fostering, cultural change and for sustaining a sound safety culture once it is established.

However, not unlike the concept of “safety as a line responsibility,” the responsibility for fostering and maintaining a sound safety culture cascades down through the organization. Every individual in the organization has a role to play.

Cultures are based upon shared values, beliefs, and perceptions that determine what comes to be regarded as the norms for the organization; i.e., cultures develop from societal agreements about what constitutes appropriate attitudes and behaviors. If the organization feels strongly about a particular behavior, there will be little tolerance for deviation, and there will be strong societal pressures for conformance.⁽³⁾ Each individual in the organization has a role in reinforcing the behavioral norms.

Thus, in the broadest sense for a sound safety culture, “The organization and each individual” is the most appropriate answer to the question “Who is responsible?” In a sound safety culture, an individual would be expected to intercede if they saw a co-worker about to commit an unsafe act. In a sound safety culture, leadership would be expected to monitor the health of the safety culture and reinforce and nurture it when

required. In a sound safety culture, individuals and groups would be expected to speak out if they perceived management acting in a fashion inconsistent with the organization's values.

IV. What Are the Key Attributes Of A Sound Safety Culture?

A review of the literature on the topics of organizational effectiveness and safety culture, reinforced by learnings from numerous chemical facility audits and incident investigations, has led to the identification 11 key attributes for a sound safety culture. These attributes, which are described in further detail in the CCPS RBPS Guideline, are listed in Table 1.

Table 1. Key Attributes Of A Sound Safety Culture ⁽⁴⁾

- **Espouse safety as a core value**
- **Provide strong leadership**
- **Establish and enforce high standards of performance**
- **Maintain a sense of vulnerability**
- **Empower individuals to successfully fulfill their safety responsibilities**
- **Provide deference to expertise**
- **Ensure open and effective communications**
- **Establish a questioning/learning environment**
- **Foster mutual trust**
- **Provide timely response to safety issues and concerns**
- **Provide continuous monitoring of performance**

The six cultural themes distilled from the Columbia investigation can be mapped to these eleven key attributes. It is important to keep in mind that the organizational themes distilled from the Columbia incident do not cover all of the cultural pathologies that could exist within an organization. Your organization may have safety culture weaknesses that did not play a part in the three case studies described in this communications package.

V. What Should Be Done?

While it is not feasible to provide an explicit rode map here, there are some basic steps that you should consider to address the safety culture issues within your organization.

Create Awareness. Presumably, that is why you are reading this communications package. Corporate and/or site leadership need an awareness of the importance of safety culture to safety performance. The case histories included in this package should allow you to demonstrate the potential consequences that can result from a weak safety culture. The exercises or workshops that you may choose to conduct, based upon the tools and guidance in this communications package, should help identify any of the more obvious issues and set the stage for further, more detailed evaluations of your safety culture.

Identify a Champion. While every member of the organization should be a supporter of a sound safety culture, your organization may require a Champion if the scope of the cultural transformation is large. Perhaps that is you. Whoever fulfils this role must understand the dynamics of safety cultures and the process for, and obstacles to,

implementing cultural change. The Bibliography included in this package lists a number of excellent texts on the topic. Become a student.

Perform a gap analysis. Learn/evaluate how your culture is performing in contrast with the 11 key attributes. Identify where the gaps are and prioritize a risk-based response to closing this gaps. This is simply stated and difficultly done. Gaining a full understanding of the dynamics of your culture and determining the root causes of any problems is likely not an overnight exercise. However, there are likely to be some readily apparent first steps that could be taken to start the process.

Steward cultural change. When we talk of “managing culture,” it is important that we recognize that leadership’s potency in this matter is limited to inspiring, enabling, and nurturing cultural change. Since leaders cannot change an organization’s values and beliefs through edict, it is not possible to mandate cultural change.

Acceptable behaviors must be modeled at all levels of the organization through leadership by example. Values must be communicated and reinforced frequently. The rationale for, and anticipated benefits of, sanctioned behaviors must be made evident to all. Positive reinforcement and accountabilities for behaviors must be certain.

Earlier, we noted that values help shape beliefs and attitudes, which then, to a significant degree, impact behaviors. To change culture we must, for a time, reverse this process. Cultural change requires that new attitudes and behaviors be espoused, that these new attitudes and behaviors demonstrate successful results, and that the organization feels good about that success.⁽²⁾ By consistently reinforcing positive behaviors, linking them to the benefits they bring, and relating these benefits to our beliefs of why they are important, we should be able to gradually shift the values of the organization in a positive direction. In doing so, we strive to advance the organization from a rule-driven culture to a value-based culture.

Keep the organization focused. Many organizations have already established sound safety cultures. Not uncommonly, these cultures have been developed in response to, and are reinforced by frequent reference to, significant loss events in the company’s past. Those organizations fortunate enough not to have experienced such a seminal event may find it helpful to draw upon the experience of others in their, or similar, industries. This communications package provides one process industry case study. You may have case studies from your own organization that can be used to emphasize the importance of safety culture. However you do it, it is important to keep the organization, at all levels, focused on “What Is At Stake.”

VI. References and Notes

1. UK Health and Safety Executive, *Safety Culture: A Review of the Literature*, HSL/2002/25, 2002.
2. Schein, E.H., *Organizational Culture And Leadership*, 3rd Ed., San Francisco: Jossey-Bass, 2004.

3. Weick, Karl E. and Sutcliffe, Kathleen M., Managing the Unexpected, Jossey-Bass, 2001.
4. This list of safety culture attributes is based upon the content of an ABS Consulting continuing education course, *Creating and Sustaining a Sound Safety Culture*, and is used with the permission of ABS Consulting.

Additional reading

5. Frank, W. L., “Essential Elements of a Sound Safety Culture,” AIChE, Process Plant Safety Symposium, Atlanta, GA, April 2005.
6. Jones, David, “Turning the Titanic – Three Case Histories in Cultural Change,” CCPS International Conference and Workshop, Toronto, 2001.