

## What is possible today in creating a Process Safety Management strategy that we are fully committed to and how will we each contribute?

Steve Lewis, Compliance Specialist, CSA Group (U.K.), Hawarden Industrial Park, Deeside, CH5 3US. 30/12/2016.

How to develop a process safety management mindset and take the next steps in continuous improvement of your management systems, asset integrity and safety culture.

A critical aspect of the continuous improvement process is to define a structured and systematic approach for the review of management system performance. The review process should be forward looking and as mindful leaders we must be prepared to ask ourselves questions that will challenge the status quo. Therefore to engage employees as part of this process and to create ideas for improvement we pose the following question:

*“What is possible today in creating a Process Safety Management strategy that we are fully committed to and how will we each contribute?”*

This question helps to set the scene for a one day experiential styled workshop, with the aim of providing employees with an improved understanding of process safety, and more importantly to build on their shared experiences to create ideas for the development of a process safety strategy and improvement plans.

The employee teams taking part shared their personal experiences of a process safety incident or risk management practice, and then observed a short video and case study of a major accident. This was followed by time for reflection and evaluation of their experience in relation to the multi causal nature of major accidents and the control measures used for risk prevention and mitigation.

It is this time for reflection and a shared experience that ‘tap’s into the individual’s emotions and feelings to develop insight and a process safety mindset.

The teams then considered the key focus areas of the process safety management framework and the twenty elements of the management system. Next, through the formation of abstract concepts (analysis) and generalisations (conclusions) ideas are created and developed for the process safety improvement plan recognising that in this context the business is already taking steps on its own ‘journey’.

By ensuring that the workshop consisted of a diverse team of employees, acknowledged the broad range of accountability for process safety and was essential for a comprehensive review of strategy and development of an improvement plan.

In conclusion, the key aspect of the experiential styled workshop was to create a process safety mindset and the following benefits:

- Positive process safety leadership and visible commitment.
- A process safety mindset and understanding to support effective communication.
- A shared understanding of site specific major hazard risks.
- Identification of process safety ‘gaps’ in the management systems.
- Workforce involvement in the development of process safety improvement plans.
- Learning the lessons from industry and sharing process safety information.
- Commitment to personal process safety improvement plans.
- Identified areas of responsibility for monitoring and measuring performance.
- Establishing a review cycle for process safety management strategy and improvement plan.

Keywords: Mindset – An established set of attitudes held by someone; Co-create - Bringing different teams together to jointly produce a mutually valued outcome.

### Introduction

This paper outlines a method, or first steps in the development of a process safety management mindset, based on an experiential styled workshop and a collaborative approach.

Organisations strive continually for improvements in their management systems, procedures and practices. This workshop advocates a structured and systematic review process, which is forward looking and as mindful leaders we must be prepared to ask ourselves questions that will challenge the status quo.

Therefore from the outset of the workshop we are reaching out to engage and involve employees by asking, “What is possible today in creating a Process Safety Management strategy that we are fully committed to and how will we each contribute?”

The clear leadership message is that, ‘we’re in this together’ and are convening this process safety management conversation with a joint commitment and accountability going forward, the teams will own what they co-create. Below is an outline of the workshop method (See Figure 1) and its benefits.

### **Positive process safety leadership and visible commitment.**

The Process Safety Leadership Group (PSLG, 2010) has developed a set of core principles for process safety leadership, and the first of these principles is that *“Clear and positive process safety leadership is at the core of managing a major hazard business and is vital to ensure that risks are effectively managed”*. The experiential styled PSM workshop helps support and is aligned with these core principles.

To set the tone it is vital that Senior Management take an active role in contributing to the workshop by giving their commitment to the development of a process safety mindset, which can also be likened to a growth mindset (Dweck, 2007). A fixed mindset response often received during workshops is that “we’re already doing that”. Whereas a growth mindset is the belief that as individuals we can change and develop through good strategies and therefore we might ask, “do we have sufficient focus on major hazards or critical risks?”

### **Emotionally engaged employees.**

At the beginning of the workshop employees share their personal experiences of a process safety incident or risk management practice, which is seeking to connect individuals in the team on a very personal level. It is important that employees are fully invested in the activity and we ask; *“Where are you on a scale from one to ten on giving your full commitment to the day’s conversation?”*

The team then view a short major accident or incident video and are asked to discuss openly what stood out for them as metaphors, images or key points. With this first part of the workshop as a ‘grounding’ the team are allowed time for reflection on the multi causal nature of major accidents and the control measures used for risk prevention and mitigation. It is this time for reflection that ‘taps’ into the individuals emotions and feelings, to develop insight and a process safety mindset.

The specialist or process safety manager role is critical to the workshop as an influencer, coach and mentor to support the facilitation of the workshop and encourage teams to see things with fresh eyes. Too often the corporate process safety manager or specialist role is not clearly defined, underutilised and must especially be nurtured by senior executives and key decision makers.

### **Workforce involvement in the development of process safety improvement plans.**

To support a comprehensive review of strategy, the workshop follows a Hopes (Vision), Fears (Contradictions) and Expectations (Strategic directions) approach (Johnson, 1994) that is intended to surface process safety concerns and improvement ideas. The workshop can also help clarify that an organisations risk reduction activities are aligned with their mission and vision statements.

By working together in small teams, employees openly discuss and create ideas for the ideal process safety management future state. The small teams then reconvene and together they present and discuss their team’s analysis, and as a group categorise their ideas under broader process safety management headings (Tables 1-2).

Through the formation of abstract concepts (analysis) and generalisations (conclusions), as described in Kolb’s (1984) experiential learning cycle, process safety management ideas are created and developed as actions for the process safety improvement plan (Table 3).

### **Process safety mindset.**

The fundamentals of the workshop are about creating a change in the way we think about process safety risks and recognising that a shift in mindset can lead to a significant change in team performance and results. ‘We’re in this together’ being the essence of a ‘relationship-based’ system (Delehanty, 2014) that builds upon the strengths of each individual in the team and encourages collaborative learning.

The workshop is intrinsically rewarding and motivating for the participants by stimulating a sense of vulnerability, providing a strong sense of team purpose, a sense of progress through the identification of opportunities for improvement (Thomas, 2009), and hence achieving a process safety mindset.

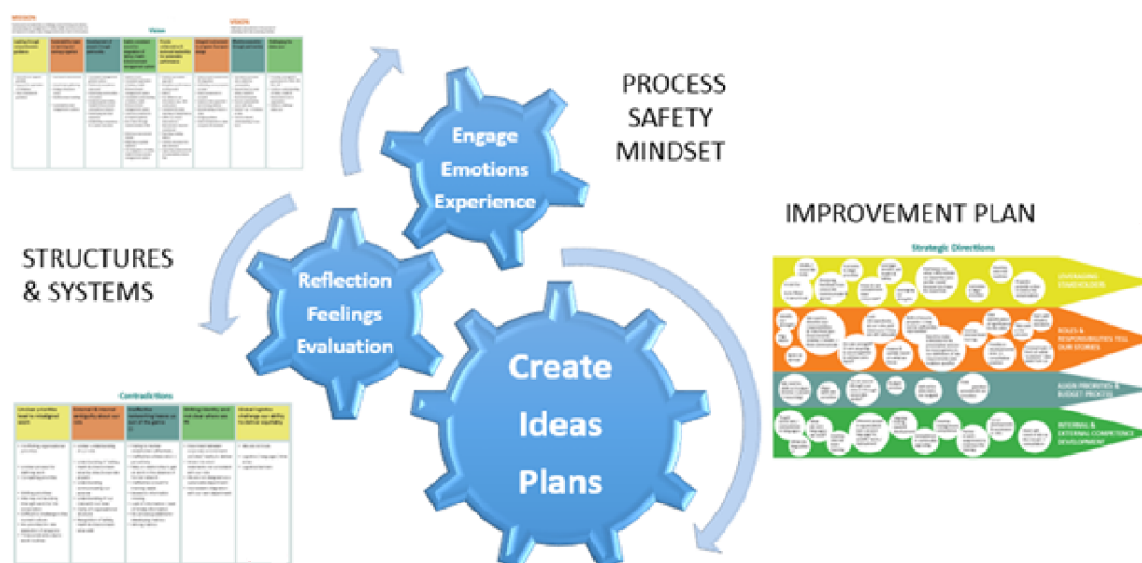


Figure 1 - Process Safety Management - Experiential Workshop Model

To continue to build strong relations and sustain this level of commitment there needs to be a schedule for regular follow-up with the employee teams. The follow-up can take the form of one-to-one coaching, personal process safety improvement plans, a process safety management (PSM) committee and sub-committees, creating process safety coordinator roles to convene regular meetings with PSM element owners, etc.

## Conclusions

In conclusion, the key aspect of the experiential styled workshop is to create a process safety mindset and take the next steps in continuous improvement of your management systems, asset integrity and safety culture.

By the team taking into consideration the value of a high level framework for process safety management (Energy Institute, 2010) and the twenty elements in the context of Hopes (Vision), Fears (Contradictions) and Expectations (Strategic direction). Process safety improvement plans can be created or reviewed with a structured and systematic approach, that is aligned with the organisations vision and mission statements.

The key benefits may be listed as:

- Visible process safety leadership and commitment.
- A process safety mindset and engaged employees.
- A shared understanding of site specific major hazard risks.
- Identification of process safety 'gaps' in the management systems.
- Workforce involvement in the development of process safety improvement plans.
- Learning the lessons from industry and sharing process safety information.
- Commitment to personal process safety improvement plans.
- Identified areas of responsibility for monitoring and measuring performance.
- Establishing a review cycle for process safety management strategy.

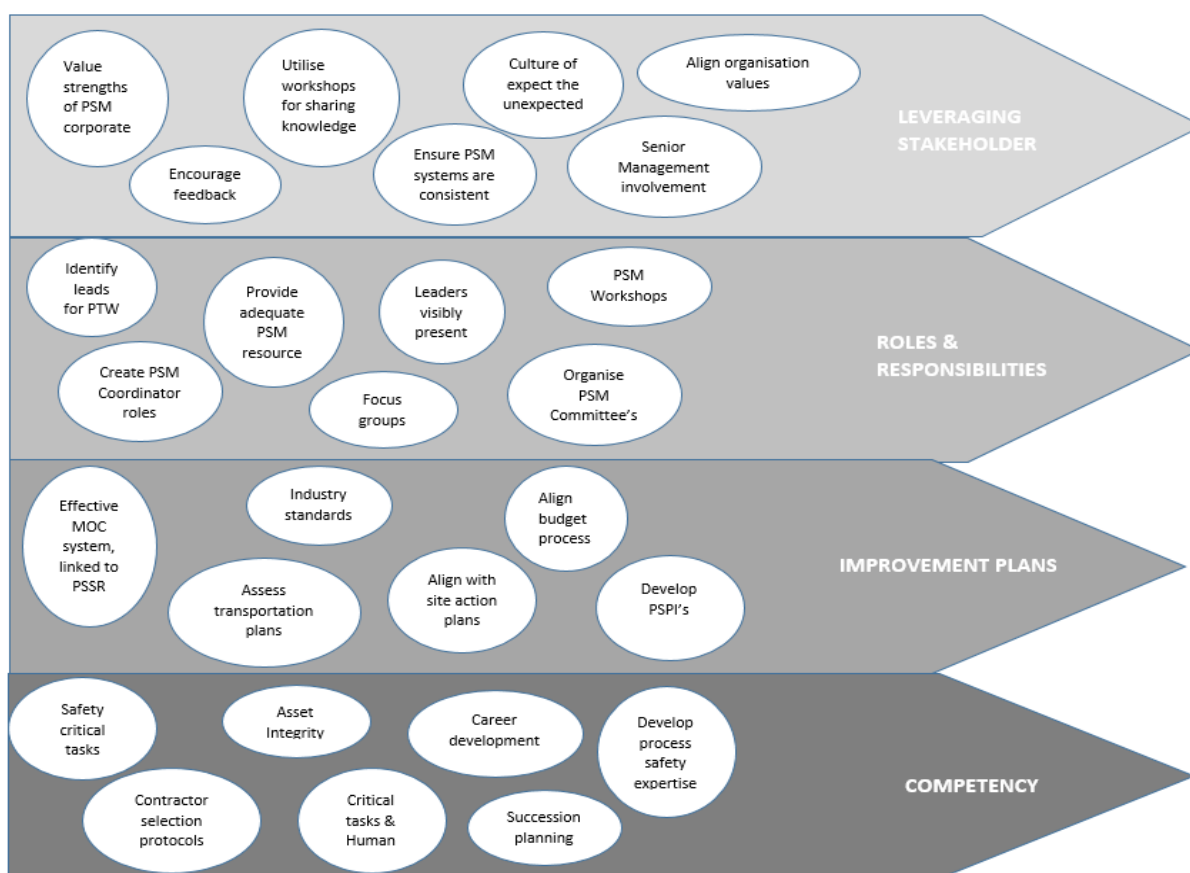
The benefit of engaged employees and the intrinsic rewards of the workshop should not be underestimated. Working together and engaging the team in a process safety management conversation leads to a shift in mindset and a significant change in your teams thinking, leading to improved results.

Table 1: Vision (*typical example*)

Leadership	Hazard Identification and Risk Assessment	Risk Management	Review and improvement
<p>PSM Policy / Standard development</p> <p>PSM Coaching for teams</p> <p>PSM reporting sub - committees</p> <p>Development of leading and lagging indicators</p> <p>PSM gap analysis</p> <p>Integrate and align with IMS</p>	<p>HAZOP Action sign –off</p> <p>Chemical composition matrix/ compatibilities</p> <p>HAZOP for start-up / critical procedures</p> <p>Transportation/ logistics risk assessment</p> <p>Risk assess Plant interactions (e.g. communication/ interdependencies)</p> <p>Waste and Hazmat assessment</p> <p>Review adequacy of Dispersion Modelling</p> <p>OBRA or facility siting survey</p>	<p>Complete procedures for start-up/shutdown and abnormal or emergency shutdown conditions.</p> <p>Ensure MOC process is in place and effective.</p> <p>Third Party Impacts on warehouse shipping &amp; transportation.</p> <p>Complete Operational readiness and PSSR.(Field verification for critical controls).</p> <p>Commissioning Operations and area turnover to process.</p> <p>Reliability: Provide AMF, condition/corrosion monitoring, flanged joint integrity, structural steelwork and fire system integrity.</p>	<p>Create PSM workshop review structure for teams</p> <p>Review major risks and emergency shutdown and SIS requirement.</p> <p>Review tertiary containment.</p> <p>Adequacy of resource – FARSI</p> <p>Utilise IChemE ‘Tough Talks’ for behavioural safety.</p> <p>ER assessment and action log</p>

Table 2: Contradictions (*typical example*)

Unclear priorities	Uncertainty of terms and system fit	Conflicting initiatives and systems	Ineffective integration
<p>Conflicting organisational priorities.</p> <p>PSM standards will improve EHS systems?</p> <p>Evaluate resourcing issues for start-up and workloads on key individuals.</p> <p>EHS to lead with a multi-discipline approach?</p> <p>Owners for elements?</p> <p>Creating a PSM Coordinator role.</p> <p>Shifting priorities.</p>	<p>Complementary personal safety and process safety</p> <p>Who will carry out PSM Coaching?</p> <p>Who will lead PSM reporting sub – committees.</p> <p>Communicate high level major risks identified and ensure rigorous risk management of controls.</p> <p>Ineffective collaboration.</p>	<p>Overlapping of system elements and how to integrate and align with existing EHS systems</p> <p>PSM committee to be chaired by site director or plant manager.</p> <p>Secondary containment &amp; lack of hard standings present an environmental risk (worst case) with no tertiary containment provided.</p> <p>Failure to involve stakeholders</p> <p>Mission and vision statements consistently applied</p>	<p>Not understanding requirements for PSM integration at senior management and corporate level</p> <p>Lack of corporate support</p> <p>Lack of corporate guidance</p> <p>Seeing PSM as a new initiatives and more work</p>

Table 3: Strategic directions (*typical example*)

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