

UK Petroleum Industry Association – A Commitment to Process Safety

Introduction

In January 2006, work began by the Buncefield Major Incident Investigation Board (MIIB) to determine the causes of the Buncefield incident. The MIIB developed a series of recommendations for industry and the Competent Authority (CA - HSE, Environment Agency and SEPA), which, once implemented, would greatly reduce the risk of a similar incident in the future.

Three reports were produced, *Design and operation of fuel storage sites*, *Emergency preparedness for, response to, and recovery from incidents* and *Land use planning and the control of societal risk around major hazards*.

The purpose of this article is describe the key outputs of the Process Safety Leadership Group (PSLG), established to address the twenty five recommendations of the MIIB's *Design and operation of fuel storage sites* report, and UKPIA's response to them. The PSLG was formed to ensure all twenty five recommendations of the MIIB's *Design and operation of fuel storage sites* report were comprehensively addressed, most notably in the areas of high reliability organisations, culture, and leadership.

Operating with high reliability organisations

Whilst the physical hardware and systems associated with preventing a loss of containment is an essential part of process safety, their full benefit can only be realised when human and organisational factors involved in their design, use and maintenance is also considered.

Critical factors involve whether or not personnel involved at all levels of an organisation, from operators to managers, understand fully what their roles and responsibilities are, and whether they have the necessary competency to carry out those activities. The PSLG identifies the need to clearly define these aspects within an organisation, and provides guidance on the tools and techniques necessary to support them – for example, control room design, alarm management, management of change and communication processes (including those necessary for inter-site transfers).

Measuring the success of process safety management systems is also considered, and the PSLG recommends the adoption of both leading and lagging process safety performance indicators to assess how effectively risks are being controlled.

Delivering high performance through culture and leadership

Hardware and management systems aim to manage risk directly, but there is also a strong need to proactively work towards excellence in process safety, encouraging continuous improvement within the industry sector through learning from ourselves and from others.

In addressing the need for high performance, the PSLG published the *Principles of Process Safety Leadership*, promoting the improvement of process safety from board level – a commitment to

actively manage process safety, engage with the workforce, monitor performance and share best practice and learn from relevant incidents from across industry sectors.

Several initiatives have been launched by trade associations to tackle these challenges, including UKPIA's Process Safety Leadership Commitment. A process safety forum (represented by the UKPIA, TSA, Oil and Gas UK, Chemical Industries Association and the Nuclear Industry Association) has also been established to collectively review incidents and share lessons and good practice.

UKPIA's Commitment to Process Safety Leadership

In response to the MIIB's recommendations on high reliability organisations, culture and Leadership (specifically recommendations 21, 22, 23, 24 and 25), and to similar recommendations arising from the earlier Baker report on the Texas city incident, UKPIA developed its Commitment to Process Safety Leadership, its main aims are to:

- Recognise that strong performance is key to protecting people and the environment, preventing uncontrolled releases of hazardous materials, and minimising the impact should a release occur
- Foster a spirit of cooperation in pursuit of sector process safety excellence in all areas
- Meet the expectations of the PSLG's Principles of Process Safety

The commitment is signed and supported by UKPIA's council, and implementation of its objectives are led through the Process Safety Leadership Network (PSLN), a UKPIA committee consisting of senior Health, Safety and Environment managers from member companies. In December 2008, UKPIA recruited a process safety programme manager, to manage the implementation the objectives under the guidance of the PSLN.

Objectives

The commitment has seven key objectives:

1. Self Assessment Framework – to develop a series of self assessment modules in key areas of process safety. These modules, developed in co-operation with experts from member companies, are not intended to assess against current good practice, but instead represent a view of what industry should be working toward – excellence in process safety. The development of these modules is a multi-year activity, with priorities set through UKPIA's PSLN.
2. Self Assessment – using the tools created through objective 1, to critically self assess gaps within individual operations against versus the agreed framework, and develop plans to address these.
3. Performance Monitoring – Adopt both leading and lagging performance metrics to demonstrate the success of the process safety programmes. UKPIA members are looking to the work currently undertaken by the American Petroleum Industry (API) on common process safety performance indicators for the refining and petrochemical industries (API RP 754). Specifically, those indicators termed Tier 1 and Tier 2, which produce common guidelines for collecting lagging indicators for the loss of process containment.
4. Incident Learning – Develop and implement an effective process for sharing of and learning lessons from relevant, high potential process safety incidents. UKPIA has developed a

guideline for the sharing of high level learnings, within its membership only (for those with legal or commercial restrictions), and externally through the process safety forum (see objective 6)

5. Analysis – facilitate peer to peer comparisons of performance as a driver for improvement. Using the completed self assessment modules, UKPIA collates the comparative data from the self assessment modules into a report, indicating to members the overall performance of the industry sector, and providing information allowing them to see where they are in relation to others. To address any potential commercial concerns, reports are confidential, and do not identify individual operators. This information may then be used by operators to target specific improvement programmes.
6. Information Exchange - Recognise that many best practices outside of the sector have applicability to refining and terminal operations. We actively engage with other sectors to seek improvement opportunities. UKPIA is an active member of the Process Safety Forum (Consisting of UKPIA, Tank Storage Association, Nuclear Industry Association, Oil and Gas UK and the Chemical Industries Association). The role of the forum is to share good practice and tools, share relevant high level learnings (safety alerts) and to move forward the process safety management agenda.
7. Communication – Enhance dialogue with key stakeholders to ensure that we take proper account of their concerns. UKPIA proactively encourages dialogue with member companies to ensure a consistent interpretation of the self assessment tools, help in sharing good practice in process safety management, and to understand the issues directly affecting members. In addition, UKPIA maintains dialogue with the competent authority, and with other industry forums such as the PSLG, and the Chemical and Downstream Oil Industry Forum (CDOIF)

Conclusion

Through implementation of its process safety leadership commitment, UKPIA and its members aim to recognise the critical importance of process safety and encourage continuous process safety improvement – to better understand what excellence in process safety is and to deliver a plan of how to get there.