

Developing a Process for Effective Safety Alerts

Summary

The sharing of high level learnings is critical to the success of any process safety management system, and where those learnings can be shared between other organisations and industry sectors, the ability to learn from ourselves and from others is an important factor in reducing the risk of incidents.

Introduction

The United Kingdom Petroleum Industry Association (UKPIA) is a trade association representing the interests of, and speaking for, the nine refining companies involved in the UK downstream oil industry.

In response to the Buncefield Major Incident Investigation Board's (MIIB) recommendations on high reliability organisations, culture and Leadership (specifically recommendations 21, 22, 23, 24 and 25 of the *Design and operation of fuel storage sites report*), and to similar recommendations arising from the earlier Baker report on the Texas city incident, UKPIA developed its Commitment to Process Safety Leadership which aims 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 is 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.

One of these objectives was to develop and implement an effective process for sharing of, and learning lessons from, relevant high potential process safety incidents. This article describes the mechanism by which UKPIA developed and put into practice it's guideline for the exchange of high level learnings.

The need for change

Within the downstream oil industry sector, sharing has always happened – through review of information received from well established mechanisms (such as CCPS Process Safety Beacon, Loss Prevention Bulletin) or via informal discussion at a process safety committee meeting. However, these processes were not typically documented or their findings shared with other industry sectors through UKPIA.

As part of the commitment to process safety, it was recognised that there was a need to develop and implement an effective process for sharing and learning, and recognise that many lessons from outside of our industry sector had applicability to refining and terminal operations. Underpinning this are the recommendations made in the Buncefield MIIB *Design and operation of fuel storage sites report*, specifically:

Recommendation 21 – ‘...put in place arrangements to ensure that good practice in these areas (refining and distribution), incorporating experience from other high hazard sectors, is shared openly...’

Recommendation 25 – ‘... the sector should draw together current knowledge of major hazard events, failure histories of safety and environmental protection critical elements, and developments in new knowledge and innovation to continuously improve the control of risks. This should take advantage of the experience of other high hazard sectors such as chemical processing, offshore oil and gas operations, nuclear processing and railways’

To meet these challenges, UKPIA committed to developing a formal process for the exchange of high level learnings, and recognised the importance of the Process Safety Forum in sharing with other industry sectors.

Note: The role of the Process Safety Forum is to share good practice and tools, share relevant high level learning's, and to move forward the process safety management agenda across industry sectors. Membership consists of UKPIA, Tank Storage Association, Nuclear Industry Association, Oil and Gas UK and the Chemical Industries Association.

The Safety Alert Process

UKPIA developed a formal process documenting the mechanism by which sharing can take place – either between UKPIA members, or externally through other industry sectors via the Process Safety Forum. Both UKPIA's PSLN and Legal Affairs Committee (LAC) were involved in the development of the guidance, ensuring that appropriate checks and controls were included.

It is important to note that the guidance developed does not replace existing corporate policies or procedures. The guidance is limited to the dissemination of information determined appropriate for release by individual UKPIA member companies, or from the Process Safety Forum. It does not include the formal collection of incident data or near misses which form part of an operator's corporate process safety management system, unless this information has been determined by the operator suitable for wider distribution.

The guidance addresses the following key topics:

1. What will be the source of the data?
2. How should the data be collected and stored?
3. Who should the data be distributed to?
4. What are the legal constraints of sharing the data?

The following flow diagram represents an overview of the process developed to tackle these topics:

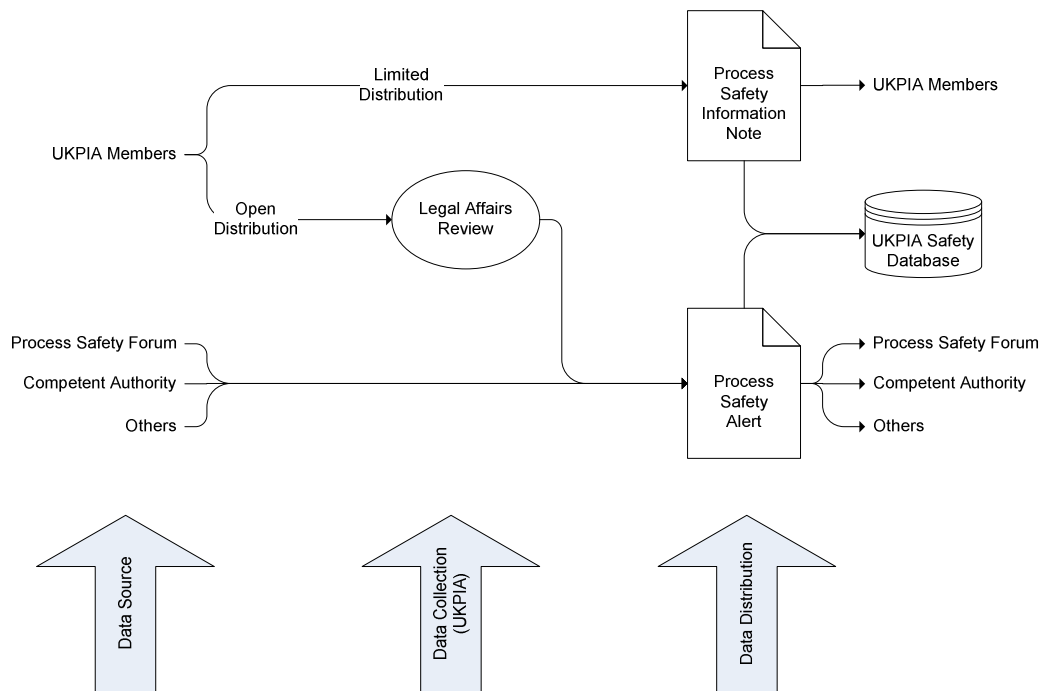


Figure 1 – Overview of the Safety Alert Process

Data Source

To ensure that we can learn the most from ourselves and from others, the process recognises that the raw data (the high level learning) may come from many different sources:

- UKPIA members – data from either from UK or overseas operations (and where sanctioned for further distribution by the originating company)
- Process Safety Forum – data originating from other industry sectors
- Competent Authority, from information received from the Competent Authority (CA – Health and Safety Executive, Environment Agency and Scottish Environmental Protection Agency)
- Others – from other sources when appropriate

Data Collection and Legal Constraints

Understanding that there may be legal constraints relating to the distribution of material is an important factor in ensuring a sustainable process, and in gaining the support for the process from all stakeholders.

For information received from the Process Safety Forum, Competent Authority or other sources, it is assumed that any legal restrictions have been considered prior to passing this information on to UKPIA. In these instances, UKPIA acts to collate the information into a standard Process Safety Alert, and distribute it accordingly, refer to *Data Distribution and Storage* below.

Where a potential high level learning is received from a UKPIA member, there is a need to understand that there may be legal or commercially sensitive reasons as to why it cannot be distributed outside of UKPIA's membership, one example of this could be where a learning is subject to an ongoing investigation by the Competent Authority. However, it is recognised that to ensure key issues are reported early, a limited distribution may well be beneficial. To address this problem, a two tier system was adopted -

- Open Distribution – the learning has no legal constraints, and will be distributed as a Process Safety Alert through, and on behalf of, the Process Safety Forum
- Limited Distribution – the learning has legal constraints, and will be distributed as a Process Safety Information Note, by and within UKPIA only

Prior to distributing the Process Safety Information Note, the originating member is asked to formally sanction its release to UKPIA members. For Process Safety Alerts, both UKPIA's PSLN and LAC is given the opportunity to review and approve its content before distribution through the Process Safety Forum.

It is worth noting that once legal restrictions have been lifted on the content of a Process Safety Information Note, it may, if still relevant, transition from limited distribution to open distribution as a Process Safety Alert, ensuring that it is made available to other industry sectors.

With these checks and balances in place, and physically separating Process Safety Alerts and Process Safety Information Notes, in their name as well as their intended audience, the legal constraints associated with the dissemination of high level learnings are addressed, and the process can be supported by industry and their legal teams.

Data Distribution and Storage

To ensure the effectiveness of both Process Safety Alerts and Process Safety Information Notes, their content is controlled and reviewed, ensuring that the message is clear, concise, and supportable:

Issue: A brief description of the incident or near miss, including the outcome or potential outcome

Learning: A description of the root cause of the incident or near miss, and what could have been done to prevent it

Further Consideration: A description of what other contributory factors could be considered in preventing a re-occurrence of the incident or near-miss

An example process safety alert template can be seen below:

<h1>Process Safety Forum</h1> <p><small>The Process Safety Forum consists of representatives from UKRIA, TSA, CIA, OGU and NIA</small></p>	
<h2 style="color: red;">Process Safety Alert 00n</h2>	
<small>Issued on:</small> <date>	<small>Issued by:</small> Process Safety Forum
<small>Subject:</small> <subject>	
<small>Issue</small>	
<small>Learning</small>	
<small>Further Consideration</small>	
<small>Distribution:</small> Process Safety Forum, Health and Safety Executive	

Figure 2 – Process Safety Alert Template

As discussed previously, Process Safety Alerts are distributed on behalf of, and through the Process Safety Forum, thus reaching many industry sectors through their trade associations. Process Safety Alerts are also distributed to the Competent Authority, and to other recipients where appropriate.

Process Safety Information Notes have a strictly limited distribution within UKPIA to relevant process safety committees.

UKPIA maintains a simple database of all safety alerts and information notes, ensuring that numbering sequences are maintained, and duplication of learning's can be avoided. The database is owned and maintained by UKPIA, and is not distributed externally, however status reports are available and those relating to process safety alerts, may be shared with the Process Safety Forum as appropriate

Follow-up Actions

Following the issue of a Process Safety Alert, and where warranted, it's content and application is discussed in the appropriate UKPIA committee to ensure a clear and common understanding of the learning. It may be decided by UKPIA's PSLN that further analysis or action is required, and this may take the form of either:

- Prioritisation of UKPIA's framework for self assessment – to target specific areas of process safety, highlighted by Process Safety Alerts. The self assessment 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.
- Identifying the need for further guidance, which may be developed through the Energy Institute (EI), or sponsored through the Chemical and Downstream Oil Industry Forum (CDOIF)

It is worth noting that as the UKPIA database grows, its content may also be used to analyse trends, also indicating where further work is required on specific topics.

Finally, how can we measure the success of a Process Safety Alert? Certainly this is not through the quantity raised – as already discussed, Alerts need to be focussed. Perhaps a true measurement of success is how the Safety Alert has been received – has it genuinely raised awareness of a new high potential learning?

Conclusion

In conclusion, it is worth noting that UKPIA also learned lessons itself in the development of its process, and these are important lessons to share with others contemplating developing a similar system:

- Be aware of the sensitivities of sharing some information – understand the legal complexities and develop a process which addresses these
- Limit sharing to only those high level learnings that are considered to be of the most benefit, avoid information overload!
- Track and maintain a record of information shared – analysis of trends provides a very powerful tool in reducing the potential for incidents