

Gas from the damaged Deepwater Horizon wellhead is burned by the drillship Discoverer Enterprise

Beyond boots and goggles

Process safety should not be confused with personal safety, argues **Gary Pilkington**

“THE oil industry is a really safe place to work”. This was the headline that caught my eye in the article by Ryan Carlyle in *tce* 863. As I read on, this bold statement is justified by the following: “Accident rates have dropped steadily since the 1990s, to the point that the oil industry is now safer than many occupations. The OSHA statistics prove it”.

It is this latter comment that prompted me to write this article. This is not an isolated occurrence though – the view expressed by Carlyle is commonplace throughout industry, especially in the upstream and downstream oil and gas industries. The issue here is belief that personal (occupational) safety, in this case evidenced by the OSHA total recorded injury rate (TRIR), somehow gives an indication as to how well a company is doing with respect to process safety.

There is a fundamental difference between personal safety and process safety. Personal safety deals with low-severity, high-frequency risks, whereas process safety deals with high-severity, low-frequency risks. Process safety is not really ‘safety’ at all, and in fact is more akin to risk management.

In his *Lessons from Longford* video, expert witness Andrew Hopkins offers the following analogy: “Think about the airline industry for a moment. No airline in its right mind is going to try and convince the travelling public as to how safe it is by telling us its LTI (loss time injury) rate. The LTI rate is largely generated by baggage handling incidents, stress-related problems, and so on. As members of the travelling public, we intuitively know that the LTI rate tells us nothing about the likelihood that an aircraft will crash. The point is really obvious in that context. It ought to be similarly obvious in any major hazard environment”.

Hopkins was referring to the incident in September 1998 when Esso Australia’s gas plant at Longford in Victoria suffered a major fire. Two men were killed and the state’s gas supply was severed for two weeks, causing chaos in Victorian industry and considerable hardship in homes that were dependent on gas. The previous year, 1997, had passed without a single lost time injury and Esso Australia had won an industry award for this performance. It had completed around 5m work hours without a LTI to either an

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employee or contractor.

Seemingly, Longford too could have been seen as a ‘really safe place to work’, however this incident is a clear example as to why personal injury rates do not give an indication as to impending process safety problems. Longford was not an isolated case, and history is littered with other incidents that support this.

The most recent, and startling, example of this is the Macondo well blowout in the Gulf of Mexico. On the Transocean *Deepwater Horizon* rig, on the day of the blowout, several BP and Transocean senior executives were onboard to congratulate the crew on their outstanding safety and performance records.

In my experience this is not uncommon. There is a general lack of understanding, particularly at leadership levels, that process safety isn’t ‘safety’ (in the general sense). Most companies now have very visible and active safety management systems but, in general, process safety management systems are much less visible. In the eyes of the workforce, this suggests that the leadership places emphasis on personal safety at the expense of process safety.

American psychologist Edgar Schein, famous for his work on organisational cultures suggests that: “Leaders create cultures by what they systematically pay attention to. This can mean anything from what they notice and comment on to what

they measure, control, reward and in other ways systematically deal with.”

To create an effective process safety culture, leaders and their organisation need to systematically pay attention to process safety management. In short, the visibility of process safety has to be on an equal footing with other critical business activities, if a balance is to be obtained between process and personal safety. A few simple suggestions as to how this could be achieved include:

the sign at the entrance

I’m sure that everyone has been to a site, maybe your site, where there is a sign outside that states the number of hours or days since a lost time injury. Sites generally are rightfully very proud when a milestone is achieved, and the workforce is often rewarded with pizzas, t-shirts or even cash bonuses.

This is a very clearly demonstrated difference between the visibility of process safety against personal safety. Every day, upon entering the site, the workforce has the personal safety message reinforced, they can see it being measured, and they are rewarded for achieving targets.

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process safety policy

If you are in a COMAH Site, you are required to produce a major accident prevention policy (MAPP). The intent is that a MAPP document is similar in approach to a health and safety policy document, but with additional focus on major accident hazards and measures to protect the environment. It should be signed by a senior person in your organisation.

Where is your MAPP? I’d wager that for a good many of you with upper tier COMAH establishments it is nicely tucked away in the safety report, where it will not be read by the majority of the site, if they know it exists at all. Yet the health and safety policy is often proudly displayed at the entrance to the company or in the reception area. If fact, many of you will have been requested to read the health and safety policy on joining the company, and perhaps signed that you understood the requirements.

The process safety policy of an organisation is often not understood or communicated in the same way as the health and safety policy. So, let’s start by putting it on the same notice boards and asking our workforce to read it.

the process safety organisation

I often receive emails from recruitment companies looking to fill process safety

positions, however, one I received recently summarises how process safety can be inadvertently devalued by a company’s organisational structure. The position apparently was for a “global process safety lead, reporting to the vice president of environmental health and safety” (EHS). When you read this, what message does this convey?

In my mind it sends a message to the organisation that process safety is a subset of personal safety. In an equal number of organisations, process safety lies in engineering. It is commonly called ‘technical safety’ in the oil and gas industries. The message is similar.

As anyone who has held a senior position in a company knows, you need to be at the top table to get things done. On the occasion when I was process safety lead for a large company, reporting in at the same level in the organisation as the head of EHS and the head of engineering, we got a tremendous amount done. Process safety was able to pull together the best elements from both departments to deliver results.

Look at your organisation – what messages are you sending?

visibility

I could have identified many areas where an increased visibility of process safety can be increased, and I have chosen a few examples of where we can think differently. The key is to ensure that process safety has a place at the top table, and that the organisation visibly demonstrates that it really is a core value, and not just corporate rhetoric.

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Any questions?

Gary Pilkington will give a webinar on 20 September at 9:00 BST

Register now at www.tcetoday.com/webinars

