Element 1.2: 1. Hazard and risk awareness of leadership teams

THOUGHT PROVOKER

Consider the organisation or environment that you work in - how confident are you that leaders and managers are fully aware of the hazard potentials of the process?

Element 1.2: 3. The need to define process safety responsibilities

THOUGHT PROVOKER

How confident are you that you understand your process safety responsibilities? What about your colleagues and senior managers?

Element 1.2: 6. Reasons for establishing process safety objectives and targets

ACTIVITY

Identify three process safety indicators that are used in your workplace to monitor process safety. Write these down, as we will come back to them in Element 2.

Element 1.3: 1. The significance of learning lessons from incidences of actual or potential consequence

THOUGHT PROVOKER

Think of a recent process safety incident that has occurred in your workplace that did not result in injury (a spill, loss of containment, etc). How was the investigation managed? Was it investigated briefly as a 'near miss' or was it viewed as having the potential for a more serious event and investigated more stringently?

Element 1.3: 2. The reasons for and benefits of accident and incident investigation

ACTIVITY

For the incident you have considered in the last thought provoker, what were the immediate and root causes that were identified?

Element 1.4: 1. Management of change control measures

THOUGHT PROVOKER

Think about your MOC process - either, one you are currently working with, or from a previous role. How effective is it? Is it valued by all involved? Is it rigorously used at all times? Could you make any improvements?

Element 1.5: 2. Types of consultees and their role/responsibilities

ACTIVITY

Write down all of the ways in which your organisation consults with workers. Which are truly consultative and which are informative? Can this be altered to increase consultation?

Element 1.6: 2. The role of competence in safe working and behaviours

THOUGHT PROVOKER

Training is an essential part of building competency. When and how do you carry out safety training? Do you hold refresher training in safety topics? Are new workers more up to date with standards and requirements (after their safety induction) than longer-term workers?

Element 1.6: 3. Competency management systems

THOUGHT PROVOKER

How do you check competency after training? Attending a training session is one part of the jigsaw, but how does the organisation ensure that after training workers are truly competent?

Element 2.1: 2. Elements of a process safety management system

ACTIVITY

Review the systems you have in place for process safety management - how many of the elements from the previous table do you have in place?

THOUGHT PROVOKER

Think about your health and safety policy. Does everyone know what it says and what the organisation aims are with regard to health and safety - especially process safety?

Element 2.1: 5. Leading and lagging process safety performance indicators

ACTIVITY

In Element 1, you were asked to write down three process safety indicators. Now review these and determine if they are leading or lagging indicators. What additional measures could be implemented to manage process safety in a more proactive manner?

Element 2.2: 1. Purpose and use of risk assessment

THOUGHT PROVOKER

What are the biggest risks faced by your organisation? How well are these risks being controlled? Can you think of any obvious risk-reduction measures that are needed? If so, how can you bring this to management's attention?

Element 2.2: 5. Hazard realisation

THOUGHT PROVOKER

Who would usefully be included in a HAZOP team in your organisation? Have you been involved? Would you have the in-house skills to manage the HAZOP process or would you need independent help?

ACTIVITY

For one simple element of your process, draw a basic event tree. For example, filling a tank and the subsequent high level alarms, fire detection, gas detection, etc.

Element 2.3: 3. Selection of equipment for the operating environment

THOUGHT PROVOKER

Where on your site is there the potential for a flammable atmosphere? Are the areas clearly marked? Do you control the use of electrical equipment in that area to prevent ignition?

Element 2.3: 6. Risk-based maintenance and inspection strategy

ACTIVITY

Identify five planned preventive maintenance activities that could be carried out on a site.

Element 2.4: 4. Interfaces with contractors

THOUGHT PROVOKER

Is there a permit-to-work in use at your workplace? Have a look at it and see how each of the sections we have discussed are included in the permit.

Element 2.6: 1. The scale of contractor use within the process industries

ACTIVITY

Identify different types of contractor/contract organisation who could be on site.

Element 3.8: 9. Chemical warehousing

ACTIVITY

Refer back to the Allied Colloid Fire example discussed earlier. In relation to assessing potential chemical hazards, how could the incident have been avoided or mitigated?

Think about:

- the hazard categories of the substances involved;
- their compatibility and segregation arrangements;
- the quantities likely to be stored;
- sources of ignition or thermal decomposition (for thermally unstable compounds);
- the impact tackling the fire may have on the environment (pollution).

Element 4.1: 1. Fire triangle and modes of heat transfer

ACTIVITY

In your workplace, what fuels are present? What ignition sources are present? Can these be eliminated?

Element 4.2: 3. Active fire protection systems

THOUGHT PROVOKER

While sprinklers are highly effective, the damage that can result from accidental operation is not to be underestimated and, therefore, controls need to be in place to avoid accidental damage. Think about ways in which the sprinkler head can be damaged or accidentally operated in a warehouse or factory.

Element 4.3: 1. Why dust explosions occur

ACTIVITY

Are there any combustible dusts in use in your workplace? What about in your kitchen? If we handle combustible dusts in the home, eg while baking, why are there not dust explosions happening in homes every day?

Element 4.3: 2. Primary and secondary explosions

ACTIVITY

Watch the video "Inferno: Dust explosion at Imperial Sugar" produced by the Chemical Safety Board (CSB) at www.csb.gov. Identify the potential ignition sources and reasons for the incident.

Element 4.4: 3. Content of an emergency plan

ACTIVITY

Think about potential incidents on your site:

- Who takes the lead during the incident? Are they on site 24/7 or are they called in?
- What training have they received?
- What specialists are utilised? How are they contacted?

Element 4.4: 7. Practical emergency-scenario testing

ACTIVITY

When did you last hold an emergency drill on site? What did it involve? What conclusions were drawn and what action was taken as a result?