

Process Safety – What Does It Mean for NZ ESI?

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Overview

- Concepts of Process Safety
- Distinction between personal safety and process safety
- Government Taskforce report implications
- Where to from here

Process Safety

- Process safety focuses on assets which comprise a process.
- UK ENA defines process safety as;
Means making sure the whole electricity system from generation through transmission to distribution is well designed, safely operated and properly maintained.

Process Safety Events

- Process safety events are low frequency, high consequence
- Major process safety events are easily recalled.
 - Gulf of Mexico
 - Texas City Refinery
 - Chernobyl
 - Pike River Mine
 - Auckland CDB Cables
 - Ash Wednesday fires
 - Fukushima Nuclear

Paper

- The paper describes process safety in more detail and provides reference to many other relevant publications and papers.
- The paper is a start on developing the meaning of process safety for the ESI and is intended to generate debate.

Personal Safety v Process Safety

- Personal safety is about the safety of people performing work and their work activity.
- Process safety is about the assets which form the process, including the impact of failure on people, property and environment.

(There are overlaps)

Relative Focus on Personal v Process Safety

- A specific learning from many major process safety events has been that the organisation has had a significant emphasis on personal safety and minimal emphasis on process safety.

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- Most organisations place emphasis on managing slips, trips and falls
 - These can be high frequency incidents and need managing
 - Many have corporate campaigns for reporting personal safety issues and have rewards programmes to go with them.

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- Do we place equivalent and appropriate emphasis on managing low risk high consequence events which may arise from asset failure?
 - Is the organisations safety performance also recording process safety information?
 - Safety is personal safety, process safety and public safety.

Chronic Unease

- ‘Chronic Unease’ is a term promoted by Andrew Hopkins and he suggests that all senior managers should constantly have it, i.e. it goes with the territory.
- Events which form the basis of ‘Chronic Unease’ are more likely to derive from process safety than from personal safety

Who is Accountable

- The CEO is accountable for both process safety and personal safety.
- H&S Groups are typically established to manage personal safety, and they get the 'safety' attention of management.
- Process safety is delivered by the asset managers and engineers, but it is more than asset management.

Process Safety Management Systems

- Scottish Power has undertaken a process safety project
- Scottish Power identified 42 risk control systems which it nested into 8 risk control areas;
 - Operational and compliance audits
 - Technical risk management
 - Staff competence
 - Operational management

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- Maintenance management
- Critical systems management
- Alarm and instrument management
- Emergency preparedness.

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- National Research Centre for OHS Regulation, Working Paper 81 reviews lessons from the Montara blowout, and provides specific guidance on;
 - The need for competence and capacity
 - The need for multiple barriers
 - The need for active supervision
 - The separation of engineering integrity and operations functions
 - Rule compliance v risk assessment

Safety Management Systems

- While Safety Management Systems are for public safety, they contain elements of consistency with process safety.
 - Ensure events which are low risk but high consequence to members of the public and/or public property are considered in the SMS.

Government Messages

- The Government Taskforce has reported with high level recommendations to restructure the regulation of H&S in NZ
- The Pike River Royal Commission has made recommendations which Govt has accepted.
- High Hazards Unit formed in response to Pike River.

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- Likely changes to come;
 - ESI could come under the jurisdiction of the High Hazards Unit
 - Australian Model Act to be used as the basis of the NZ HSE Act
 - Director's accountability for H&S will increase
- All the above will include process safety as well as personal safety.

Where To From Here?

- ESI needs to be proactive re process safety.
- The ESI needs to take an early initiative on process safety to demonstrate that it is managing it.
- There is a need to share and accumulate knowledge and experience on what process safety means for the ESI.

Conclusion

- We need to further develop our understanding of process safety
 - Refer to the paper
- Get an appropriate balance between process safety focus and personal safety focus.
- Be mindful of chronic unease.