PSF
Process Safety Forum
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Learning Brief: #022

Date: 16/10/2020

COVID-19: Risks Beyond Infection

This learning brief is shared in order to promote learning and improve safety. You should seek appropriate guidance regarding the relevance, accuracy, and completeness of this alert to your circumstances prior to implementation.

Theme

Hazard & Risk Assessment
Human Factors & Procedures
Culture
Plant Status & Records

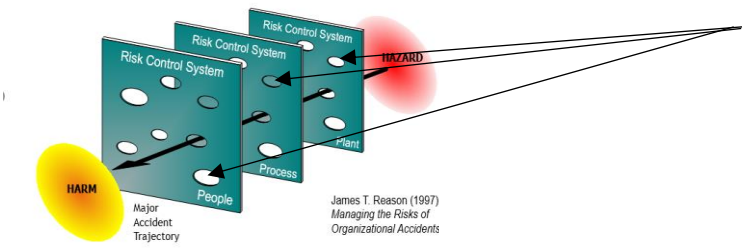
Summary of Learning

COVID-19 has brought unprecedented challenges in terms of keeping our workforce, their families and local communities as safe as possible from COVID-19 infection. As part of this, it is important to recognise that COVID carries risk beyond infection. What we mean by this is that the people, plant and process controls that keep our plant in a safe state could be compromised by indirect COVID pressures.

Description

It is thought that the styrene leak from the LG Polymers plant in Visakhapatnam, India, was caused by failures in re-start after COVID lockdown. On 7 May 2020 errors led the styrene monomer to exceed it's safe storage temperature of 20–22 °C. A vapour cloud spread over a radius of around 3km (1.86 mi), affecting the nearby areas and villages. 7 people died and 1000 people were harmed.

According to the preliminary investigation, a gas valve malfunction is believed to have caused the leak. The leak was from one of two chemical tanks that had been left unattended since March 2020 due to the COVID-19 lockdown. The full investigation is yet to be completed, but initial accounts point to COVID-related disruption to normal operation as a causal factor.



Additional 'holes' in safety controls / barriers as a result of COVID-19

People Barriers

- Lack of the usual manpower due to work-from-home, illness, or isolation may lead to strain on those who are on the plant.
- People may be distracted by fears about the virus in the workplace or work-from-home pressures
- Measures put in to reduce the transmission of COVID may make it difficult to do the job.

Process

- Pre-COVID procedures / risk assessments may not reflect reduced numbers of people on plant, and up-dates may not be timely.
- There may be pressure to 'streamline' processes to get things back on track more quickly. For example, Management of Changes processes and Governance.
- Additional COVID-secure processes may conflict with processes required for normal operations, such as distancing and PPE.
- Necessary revisions to individual risk assessments in response to COVID (e.g. deferred maintenance of safety critical items) must be examined in the context of cumulative risk. Do these combined small changes lead to unacceptable overarching risk?

Plant

- Maintenance may be delayed due to COVID issues.
- The re-start of paused operations may increase risks or introduce new risks.
- Supply chain may be disrupted so new parts or labour may not be readily available.

Consider how your People, Plant and Process controls or barriers may be affected directly or indirectly by COVID-19. Review risk assessments and scrutinise any changes to due process with care, keeping an eye on the 'big picture'. Listen to concerns on the ground. The workforce are often aware of creeping change and issues and may need additional support to tackle their concerns effectively.

Further reading

IChemE Managing Process Safety during the COVID-19 Pandemic May 2020 https://www.icheme.org/media/13940/managing-process-safety-during-the-covid.pdf

Flight Safety Foundation. Pandemic NON-MEDICAL OPERATIONAL SAFETY ASPECTS SUPPLEMENTAL MATERIALS. March 2020 version 1.