

## Construction Hazard Analysis Issue

Methods,  
Tools, and  
Resources

## Managing the Safety Consequences and Business Impacts of Construction Risk

### Executive Summary

Companies can have a process safety incident while performing construction, high risk or non routine maintenance activities at their facilities, and the results can be devastating in terms of safety to the workers and public, the environment and the surrounding communities. There can also be significant financial costs to the company and /or contractors performing the work that can impact their ongoing ability to do business.



## Upcoming Training

April 11-12, 2023

### PSM Essentials

Learn the fundamentals of the PSM OSHA regulation to prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals.

► [View the Agenda](#)

May 2-4, 2023

### SuperChems™ Training

Master techniques for addressing relief sizing for various scenarios, relief piping system design, flare header modeling and consequence modeling.

► [View the Agenda](#)

May 11, 2023

### Beginner PRFS Training

Learn about the fundamentals of pressure relief and flare system (PRFS) design, as well as contemporary assessment practices, including RAGAGEP.

► [View the Agenda](#)

*Incidents that may have gone unnoticed can now instantly become infamous and can draw the attention of different groups... with different priorities, including the potential delay or stopping of your project.*

This paper examines the following aspects of this topic in order to help the reader find an effective solution to managing this risk:

- Why construction risk is increasingly important in today's environment
- Impacts of construction incidents impact on a company
- How companies historically manage construction risk
- Drivers of construction risk
- The solution to managing construction risks
- Integrating CHA into your PSMS
- How to get started managing your construction risk

## Why Construction Risk is Increasingly Important in Today's Environment

Today's business environment is more complex than prior years making construction risk more important to manage than before. Incidents that may have gone unnoticed can now instantly become infamous and can draw the attention of different groups including community groups, regulators and special interest groups, with different priorities, including the potential delay or stopping of your project. Below is an example of one construction project that had fatal safety consequences and severe business impacts because those involved did not understand and effectively manage their construction risks.

[Click Here To Download the Full White Paper](#)



Source: CSB

## Unconfined Vapor Cloud Explosion in Danvers

During the early morning hours of November 22, 2006, a powerful explosion destroyed the CAI/Arnel ink and paint manufacturing facility in Danvers, Massachusetts. The following incident causes were identified by the CSB:

CAI management did not conduct a Process Hazards Analysis or similar systematic review to ensure that the flammable liquids processes were safely designed and operated.

- CAI heated Class I flammable liquids in unsealed tanks inside a closed building.
- CAI did not install or use automated process controls, alarms, or safeguards when heating flammable liquids in process equipment inside a closed building.

[Read the Incident Report](#)

## Properly Calculate Vessel and Piping Wall Temperatures During Depressuring and Relief

Determining if and when a vessel and/or piping component is going to fail under fire exposure and/or from cold temperature embrittlement is an important factor in consequence analysis and risk assessment.

[▶ Download the White Paper](#)

## Organic Peroxide Decomposition Pressure Relief System Design Case Study

A pilot plant facility had a new peroxide injection system to be used in the production of polyolefins and wanted to test six different peroxides for runaway reaction capabilities. An on-site engineering and construction firm retained ioMosaic to complete an evaluation of the storage vessels to ensure they were in compliance with OSHA 29 CFR 1910.119

[▶ Read the Case Study](#)

## Preventing Hidden Risks in Construction & BESS Using PHA Techniques

Watch this PStv<sup>®</sup> video for a look at two risk categories that impact process safety, as well as how to identify and manage possible hazards. Minimize the risk with Process Hazard Analysis studies.

[Click Here To Watch](#)

		Consequence of Severity			
		1	2	3	4
Likelihood	5	C	B	A	A
	4	D	C	B	A
	3	D	D	C	B
	2	D	D	D	C
	1	D	D	D	D