

Safety Corner

What is Process Safety Management?

The objective of process safety management (PSM) is to ensure that potential hazards are identified and mitigation measures are in place to prevent unwanted release of energy or hazardous chemicals into locations that could expose employees and others to serious harm.

An effective PSM program requires a systematic, comprehensive management program that integrates technologies, procedures, and management practices to evaluate the whole chemical process. Process design, process technology, process changes, operational and maintenance activities and procedures, non-routine activities and procedures, emergency preparedness plans and procedures, training programs, and other elements that affect the process are all considered in the evaluation.

PSM was originally proposed by the U.S. Occupational Safety and Health Administration (OSHA) in 1990 to assure safe and healthful workplaces.

The OSHA PSM standard requires employers to:

1. Develop and maintain written safety information of workplace chemical and process hazards as well as equipment and technology used in the processes
2. Perform workplace hazard assessment
3. Consult employees
4. Establish a response system for hazard assessment findings
5. Periodically review hazard assessment and response system
6. Develop and implement written operating procedures
7. Provide safety training and operating information
8. Provide appropriate information and training for contractors
9. Train and educate employees in emergency response
10. Establish a quality assurance program
11. Establish maintenance systems
12. Conduct pre-start-up safety reviews of all newly installed or modified equipment
13. Establish and implement written procedures managing changes
14. Investigate every incident that results in or could have resulted in a major accident

Experience suggests that the OSHA PSM model could be enhanced by including the safety culture, interface management, explicit accountability and responsibility, safety life cycle management, and sharing of experience.

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