

# Review of OSHA 1910.119 Standard for Training Requirements



Process Training Solutions  
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# Past History of Major Releases that caused Catastrophic loss of life and injuries

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- 1984 Bhopal, India incident resulting in more than 2,000 deaths
- July 1988, Piper Alpha oil rig incident resulting in 167 deaths
- October 1989, Phillips Petroleum Company in Pasadena, Texas incident resulting in 23 deaths
- July 1990, Channelview, Texas, ARCO incident results in 17 deaths
- July 1990, BASF, Cincinnati, OH incident resulting in 2 deaths
- May 1991 IMC, Sterlington, LA, incident resulting in 8 deaths and 128 injuries

# Purpose of Process Safety Management (PSM)

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- PSM Standard came out in May 1992
- Purpose is to “this section contains the requirements for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals. These releases may result in toxic, fire or explosion hazards.

# Difference of the PSM standard compare to previous OSHA standards

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- Before 1992, OSHA standards usually covers one topic area like:
- Occupational Noise Exposure, 1910.95
- Eye and Face Protection, 1910.133
- Respiratory Protection, 1910.134
- PSM has 13 elements addressing different subjects

# 13 Elements of PSM

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- (c) Employee Participation
- (d) Process Safety Information
- (e) Process Hazard Analysis
- (f) Operating Procedures
- (g) Training
- (h) Contractors
- (i) Pre-start up review
- (j) Mechanical Integrity

# 13 Elements of PSM, continue

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- (k) Hot Work Permit
- (l) Management of Change
- (m) Incident Investigation
- (o) Compliance Audits
- (p) Trade Secrets

# 9 Elements has Training implications

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- (e) Process Hazard Analysis
- (f) Operation Procedures
- (g) Training
- (h) Contractors
- (i) Pre-start up review
- (j) Mechanical Integrity
- (l) Management of Change
- (m) Incident Investigation
- (o) Compliance Audits

## (e) Process Hazard Analysis

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- “The employer shall establish a system to promptly address the team’s findings and recommendations;
- Assure that the recommendations are resolved in a timely manner and the resolution is documented;
- Document what actions are to be taken;
- Complete actions as soon as possible;



## (e) Process Hazard Analysis continued

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- Develop a written schedule of when these actions are to be completed;
- communicate the actions to the operating, maintenance and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.”

## (f)(3) Operating Procedures

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- The operating procedures shall be reviewed as often as necessary to assure that they reflect current operating practice,
- Including changes that result from changes in process chemicals, technology, and equipment, and changes to facilities.
- The employer shall certify annually that these operating procedures are current and accurate.

## (f)(4) Operating Procedures

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- “The employer shall develop and implement safe work practices to provide for the control of hazards during operations,
- such as lockout/tagout; confined space entry; opening process equipment or piping;.

## (f)(4) Operating Procedures, continue

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- and control over entrance into a facility by maintenance, contractor, laboratory, or other support personnel.
- These safe work practices shall apply to employees and contractor employees.”

## (g)(1)(i) Initial Training

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- Each employee presently involved in operating a process, and each employee before being involved in operating a newly assigned process,
- Shall be trained in an overview of the process,
- and in the operating procedures as specified in paragraph (f) of this section.
- The training shall include emphasis on the specific safety and health hazards, emergency operation including shutdown and safe work practices applicable to the employee's job tasks.

# (g)(2) Refresher Training

and in the operating procedures as specified in paragraph (f) of this section

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- Steps for each operating phase
- Initial startup
- Normal operations
- Temporary operations
- Emergency shutdown
- Emergency Operations
- Normal shutdown
- Startup following a turnaround or after an emergency shutdown
- Operating limits
- Consequences of deviation

# (g)(2) Refresher Training

and in the operating procedures as specified in paragraph (f) of this section

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- Steps required to correct or avoid deviation
- Safety and health considerations
- Precautions necessary to prevent exposure
- Control measures to be taken if physical contact or airborne exposure occurs
- Quality control for raw materials and control of chemical inventory levels
- Any special or unique hazards
- Safety systems and their functions

## (g)(1)(ii) Initial Training

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- In lieu training for those employees already involved in operating a process on May 26, 1992,
- an employer may certify in writing that the employee has the required knowledge, skills and abilities to safely carry out the duties and responsibilities as specified in the operating procedures.



## (g)(2) Refresher Training

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- Refresher training shall be provided at least every three years,
- And more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current operation procedures of the process.
- The employer, in consultation with the employees involved in operations the process, shall determine the appropriate frequency of the refresher training.

## (g) (3) Training Documentation

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- The employer shall ascertain that each employee involved in operating a process has received and understood the training required by this paragraph.
- The employer shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

## (i) Pre-start up safety review

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- Modified facilities meet the requirements contained in management of change.
- Training of each employee involved in operating a process has been completed.

## (j) Mechanical Integrity

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- Training for process maintenance activities. The employer shall train each employee involved in maintaining the on-going integrity of process equipment in overview of that process
- and its hazards and in the procedures applicable to the employee's job tasks to assure that the employee can perform the job tasks in a safe manner.

# (I) Management of Change

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- The employer shall establish and implement written procedures to manage changes (except for “replacements in kind” to process chemicals, technology, equipment, and procedures; and, changes to facilities that affect a covered process.
- Employees involved in operating a process and maintenance and contact employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process.

## (m) Incident Investigation

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- The report shall be reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract employees where applicable.

## (o) Compliance Audits

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- Employers shall certify that they have evaluated compliance with the provisions of this section at least every three years to verify that the procedures and practices developed under the standard are adequate and are being followed.

# What tools can you use to complete this

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- Compliance Plans on Key government standards requiring training
- Internal audits of completion of required training
- Requirements and procedures for Process Technician certification
- Site Training Matrix for all employees
- Training Section Process and Procedures manual



## 5(a)(1) General Duty Clause

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- When there is no specific standard, OSHA requires employee training under the General Duty Clause in Section 5(a)(1) of the Occupational Safety and Health Act of 1970. This clause mandates that employers provide a safe work environment for employees.



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