

Process Safety

This section applies only to companies that use processes that involve chemicals with threshold values at or above those specified in Appendix A of the Process Safety Standard (Sec. 1910.119) or flammable liquids or gas of 10,000 pounds or more and other exceptions.

To prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable or explosive chemicals that may result in toxic, fire or explosion hazards, we will adhere to specified process safety procedures as outlined below.

Employee Participation:

The Safety Director shall organize a process safety team to perform the analyses as indicated below.

Composition of the Team and Criteria For Membership:

At least one member must be an employee who has knowledge of the process being evaluated and one member must be an expert in the process.

Compilation of Process Safety Information

Perform a separate compilation for each process.

1) Chemicals

The following hazardous chemicals are involved in the process:

chemical- toxicity-PELs-physical data-reactivity data, corrosivity data, thermal and chemical stability data, hazardous effects of inadvertent mixing of different materials Use MSDSs

2) Technology

Flow Diagram:

Process chemistry:

Maximum intended inventory:

Safe upper and lower limits:

Consequences of deviations:

3) Equipment

Materials of construction:

Piping and instrument diagrams (PID's):

Electrical classification:

Relief system design and design basis:

Ventilation system design:

Design codes and standards used:

Material and energy balances for processes built after May 26, 1992:

Safety systems:

Documentation:

Indicate that equipment complies with recognized and generally accepted good engineering practices and have knowledgeable person sign off.

Initial process Hazard Analysis:

The Process Safety Team is responsible for performing an initial process hazard analysis and for subsequent revisions and updates. The analysis shall identify, evaluate and control all hazards involved in the process.

Insert analysis here using one of the following methodologies: What-If, Checklist, Hazard and Operability Study (HAZWOP), Failure Mode and Effects Analysis (FMEA), Fault-Tree Analysis.

Hazards:

Previous Incidents With Potential For Catastrophic Consequences:

Engineering and Administrative Controls:

Consequences of Failure of Controls:

Facility Siting:

Human Factors:

Possible Safety and Health Effects of Failure of Controls on Employees:

Finding and Recommendations:

The Process Safety Team's recommendations and the final resolution of items identified by the Initial Hazard Analysis are presented below:

Documented action on these items should be retained for the life of the process.

The Process Safety Team will conduct an update to the process hazard analysis every five years and will sign off indicating validation of the analysis. **[Insert revalidations of analyses and resolutions of items here.]**

Operating Procedures:

The following are the operating procedures for each process. Copies of these procedures are readily accessible to all employees working with these processes. These manuals are located -----.

[Insert operating procedures for each process here or indicate where they are located. Include the following information:]

Initial Startup

Normal Operations

Temporary Operations

Emergency Shutdown (include conditions and shutdown responsibility)

Emergency Operations

Normal Shutdown

Startup After Shutdown

Operating Limits

Safety and Health Considerations

Quality Control of Materials

Special or Unique Hazards

Training:

Employees who will be operating a process are trained in all aspects of the process before beginning the job tasks. Safety and health hazards, emergency operations including shutdown, and safe work practices are covered. Refresher training shall be provided every 3 years or as needed. The following training records document these training sessions:

PROCESS SAFETY TRAINING RECORD

Process name/number: _____

Process location: _____

Training topic(s):

Employee	Date	Signature	Method to verify training
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Trainer signature: _____

Date: _____

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Contractors Performing Work on Processes

Whenever contractors are hired to perform any kind of work on a process, they must submit information about their safety program and performance to the safety Director as part of the bid process. Their safety program must include extensive training of contract employees on the safe procedures of the process and they must document the training. The Safety Director will determine if the information and documentation meets acceptable standards and will retain the information and evaluation in their files. Before any work begins, the Engineering Department will determine from the contractor whether the contract work presents any unique hazards.

The Safety Manager in consultation with the Engineering Department shall ensure that contract employers are informed of all potential fire, explosion, or toxic release hazards related to the process. The following are safe work practices that will be used to control the entrance, presence and exit of contract employees in process areas:

[List safe work practices for contract employees.]

The Safety Manager, the head of the Engineering Dept. and the departmental supervisor shall meet weekly to review the safety performance of the contractor and ensure that recommendations are carried out.

The site supervisor shall maintain a separate log of contract employee injuries and illnesses that relate to the process work.

New or Modified Facilities:

Whenever new or modified facilities require a significant change in process procedures, a pre start-up safety review shall be conducted by the Process Safety Team. The review shall ensure that safety, operating, maintenance, and emergency procedures are in place and are adequate. Additional training of each affected employee will be provided and documented.

Inspection and Testing of Equipment:

All pressure vessels, storage tanks, piping systems, relief and vent systems, emergency shutdown systems, controls, and pumps are inspected according to the following schedule:

[Include maintenance schedules and documentation of tests and inspections. Indicate correction of all deficiencies]

Hot Work Permits:

Hot work permits will be issued for any hot work operations conducted on or near a process.

Management of Change:

Any time changes in processes are considered, the Engineering Department will prepare an analysis of the change that includes the:

1. technical basis of the proposed changes
2. the impact of the change on safety and health,
3. modifications to operating procedures,
4. time period for the change, and
5. authorization for the change.

This analysis will be reviewed by the Process Safety Team and the Safety Manager. Once the review is complete, the Engineering Department will ensure that the supervisors and employees and contract personnel affected by the changes are informed of the changes or new procedures. All affected parties will sign off on the analysis of the changes.

[Indicate who will sign off on the analysis here.]

Incident investigation, emergency Planning and Compliance Audits:

The same procedures governing all other parts of the safety program will apply here; Hazard Assessment, Incident Reporting & Investigation, and Emergency Action Plan, except that the Process Safety Team will be involved in each area.

[Insert Emergency Planning procedures here and include specifically how the Process Safety Team will assist in these steps.]

Review:

A Process Safety Team is formed with employee members and appropriate expertise for the process under consideration.

A compilation of initial information concerning the process is documented.

An initial Process Hazard Analysis is prepared by the Process Safety Team and possible failure modes are evaluated.

Recommended actions from the hazard analysis have been taken.

The Process Safety Team re-evaluates the analysis every 5 years.

Operating procedures for each process are maintained by the

Safety Director and copies are readily available to affected employees. Employees are properly trained on all safety and operating procedures for each process. Retraining is provided every 3 years or as processes change. Contractors submit safety program information and performance as part of the bid process.

Contractors are notified of potential process hazards.

The contractor's safety performance is regularly reviewed and recommendations are carried out.

The site supervisor maintains a log of contract employee injuries and illnesses.

A pre start-up safety review is prepared before new or modified facilities are used.

A regular inspection and testing schedule is followed for all process equipment.

Hot work permits are issued for hot work operations.

The Engineering Department performs an analysis for any changes to the process that are being considered. The analysis is reviewed by the Process Safety Team and Safety Manager.

Process changes are communicated widely to affected employees who are trained on the new procedures.

Incident investigation, emergency response and compliance audits are conducted according to safety program procedures with involvement of the Process Safety Team.