Summary of Final Regulation on Process Safety Management of Highly Hazardous Chemicals 29 CFR 1910.119

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Regulation dates: issued February 24, 1992; effective May 26, 1992.

Purpose

- To prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals.

Application §1910.119(a)

- Applies to processes which involve chemicals at or above threshold quantities (specified in Appendix A) and processes which involve flammable liquids or gases onsite in one location, in quantities of 10,000 pounds or more (subject to a few exceptions). Hydrocarbon fuels, which may be excluded if used solely as a fuel, are included if the fuel is part of a process covered by this standard.

- Does not apply to retail facilities, oil or gas well drilling or servicing operations, or normally unoccupied remote facilities.

- Although not part of this standard, 29 CFR 1910.109 (Explosives and blasting agents) has been revised to indicate that manufacturers of explosives and pyrotechnics must meet the requirements contained in 29 CFR 1910.119.

Definitions §1910.119(b)

- Defines the words atmospheric tank, boiling point, catastrophic release, facility, highly hazardous chemical, hot work, normally unoccupied remote facility, process, replacement in kind, and trade secret.

Employee Participation §1910.119(c)

- Employers must have a written plan outlining employee participation in the conduct and development of process hazard analyses and in the development of other elements of process safety management (PSM). Employees and their representatives must have access to the information developed by PSM activities.

Process Safety Information §1910.119(d)

- Employers must develop written safety information on a 5-year schedule, before any process hazard analysis (PHA) is performed on the process. The written safety information must be available to employees involved in operating the process. It must include information pertaining to hazards of the chemicals used in the process (material safety data sheets [MSDS] may be used to comply); information pertaining to the technology of the process (when the original process technology information is unavailable, this information may be developed in conjunction with a PHA); and information pertaining to the equipment in the process (employers must document that equipment complies with recognized and generally accepted engineering practices, or that existing equipment is designed, maintained, inspected, tested, and operated in a safe manner).

Process Hazard Analysis §1910.119(e)

- Employers must perform an initial hazard analysis, using at least one of six specified methodologies (What-If, Checklist, What-If/Checklist, HAZOP, FMEA, Fault Tree Analysis), or an appropriate, equivalent methodology. The selected methodology must be appropriate to the complexity of the process. PHAs must be completed on a 5-year phase-in schedule and must be performed in priority order, with the rationale for the priority documented by the employer. The rationale must include consideration of the process hazards, number of potentially affected employees, age of process, and operating history. PHAs performed after May 1987 that meet the other requirements of this regulation are acceptable as initial PHAs. The analysis must be conducted by a team with expertise in engineering and process operations, which includes at least one employee with experience and knowledge in the specific process being evaluated and one person knowledgeable in the analysis methodology being used. The employer must establish a system to address and respond to the team's findings and recommendations in a timely manner. All PHAs must be updated and reevaluated at least every 5 years. Employers must retain all analyses, updates, or revalidations for each process covered, as well as the documented resolution of recommendations, for the life of the process.

Operating Procedures §1910.119(f)

- Employers must develop and implement written operating procedures. The procedures must address steps for each operating phase, operating limits, safety and health considerations, and the safety systems and their functions. A copy of the procedures must be readily accessible to employees who work in or maintain a process. The procedures must be reviewed as often as necessary to assure that they reflect current operating practice and the employer must certify annually that they are current and accurate. Safe work practices must also be developed (e.g., lockout/tagout, confined space entry, opening process equipment, access control).

Training §1910.119(g)

- Initial training must include an overview of the process and a review of the operating procedures (with specific emphasis on safety and health hazards, emergency operations, and safe work practices). Refresher training must be provided to each employee at least every 3 years. Employers must ascertain that each employee has received and understood the training. Employees involved in operating a process as of the effective date of the regulation may be certified in lieu of initial training.

Contractors §1910.119(h)

- Employers must obtain and evaluate contractor safety performance when selecting a contractor and must periodically evaluate the safety performance of contractors. Employers must inform contractors of potential hazards related to the contractor's work, as well as applicable facility safety rules and applicable provisions of the emergency response plan. Employers must assure that contract employees are trained in the work practices necessary to safely perform their job. Employers must maintain a contract employee injury and illness log.

- Contract employers must assure that their employees are trained in and follow all applicable facility work practices and safety rules and are informed of known potential hazards. Contract employers must document that their employees were trained and understood the training. Contract employers must inform the employer of any unique hazard presented by the contract employer's work, or of any hazards found by the contractor's work.

Pre-Startup Safety Review §1910.119(i)

- Employers must perform a pre-startup safety review (PSSR) for new facilities and for modified facilities where the modification requires a change in the process safety information. The PSSR must confirm that construction and equipment is in accordance with design specifications and that all procedures are in place and adequate. The pre-startup safety review for a new process must verify that a PHA has been performed and recommendations have been resolved. Modified facilities must meet the requirements of the management of change program.

Mechanical Integrity §1910.119(j)

- This subsection applies to pressure vessels and storage tanks, piping systems, relief and vent systems and devices, emergency shutdown systems, controls, alarms, interlocks, and pumps. Employers must establish and implement written procedures to maintain the ongoing integrity of process equipment. Employers must train employees responsible for maintaining the integrity of the process equipment (including training regarding the hazards associated with the process).

- Inspections and tests must be performed on process equipment. The frequency must be consistent with applicable manufacturers' recommendations and good engineering practices or more frequently if determined necessary by prior experience. Employers must certify that inspections and tests have been performed and document test procedures and results. Employers must correct deficiencies which are outside acceptable limits before further use (or in a safe and timely manner when necessary means are taken to assure safe operation). Employers must assure that fabricated equipment is suitable for the process application and is installed properly (maintenance materials and spare parts must also be suitable for the process application).

Hot Work Permit §1910.119(k)

- Employers must issue a permit for all hot work (including permanent locations) conducted on or near a covered process. The permit shall document fire protection requirements, indicate the authorized date(s) and identify the object to be worked on. The permit must be kept on file until completion of the hot work operation.

Management of Change §1910.119(l)

- The employer must establish and implement written procedures to manage changes to process chemicals, technology, and equipment, and changes to facilities that affect a covered process. Employees (including contract employees) involved in operating and maintaining the process must be informed of, and trained in, the change in the process prior to startup of the affected part of the process. If the change results in a change to the process safety information or to the operating procedures or practices, these must be updated.

Incident Investigation §1910.119(m)

- Employers must investigate every incident that results in, or could reasonably have resulted in, a catastrophic release of a covered chemical in the workplace. The investigation must be started no later than 48 hours following the incident. A team must be established to investigate the incident. The team must include at least one person knowledgeable in the process, and a contract employee if the incident involved a contractor's work. The team must prepare a report at the end of the investigation, which must be reviewed with all affected personnel who work in the facility. Employers must establish a system to address and respond to the report's findings and recommendations. Incident investigation reports must be retained for 5 years.

Emergency Planning and Response §1910.119(n)

- Employers must establish and implement an emergency action plan in accordance with 29 CFR 1910.38(a) [29 CFR 1910.120(a), (p) and (q) may also be applicable — HAZWOPER]. The emergency action plan must also address small releases.

Compliance Audits §1910.119(o)

- Employers must certify that they have conducted a PSM compliance audit at least every 3 years. The audit must be conducted by a team which includes at least one person knowledgeable in the process. The team must develop a report of the findings. Employers must promptly respond to each finding in the audit report and document that deficiencies have been corrected. Employers must retain the two most recent audit reports.

Trade Secrets §1910.119(p)

- Employers must make information necessary for compliance with the regulation available to those persons (1) compiling process safety information; (2) developing PHAs and operating procedures; and (3) involved in incident investigations, emergency planning and response, and compliance audits, without regard to the possible trade secret status of such information. Employers may require confidentiality agreements with personnel receiving trade secret information. Employees and their designated representatives shall have access to trade secret information contained in PHAs and other required documents. [29 CFR 1910.1200(i) applies.]

Appendix A List of Highly Hazardous Chemicals (Mandatory). Contains a list of 137 toxic and reactive chemicals which present a potential for a catastrophic event at or above the threshold quantity. Provides a threshold quantity for each chemical listed.

Appendix B Block Flow Diagram and Simplified Process Flow Diagram (Nonmandatory).

Appendix C Compliance Guidelines and Recommendations for Process Safety Management (Nonmandatory). Contains guidelines to assist employers in complying with the requirements.

Appendix D Sources of Further Information (Nonmandatory). Lists organizations and documents that provide further information on process safety management.