

§ 68.58

(d) The owner or operator shall perform or cause to be performed inspections and tests on process equipment. Inspection and testing procedures shall follow recognized and generally accepted good engineering practices. The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations, industry standards or codes, good engineering practices, and prior operating experience.

§ 68.58 Compliance audits.

(a) The owner or operator shall certify that they have evaluated compliance with the provisions of this subpart at least every three years to verify that the procedures and practices developed under the rule are adequate and are being followed.

(b) The compliance audit shall be conducted by at least one person knowledgeable in the process.

(c) The owner or operator shall develop a report of the audit findings.

(d) The owner or operator shall promptly determine and document an appropriate response to each of the findings of the compliance audit and document that deficiencies have been corrected.

(e) The owner or operator shall retain the two (2) most recent compliance audit reports. This requirement does not apply to any compliance audit report that is more than five years old.

§ 68.60 Incident investigation.

(a) The owner or operator shall investigate each incident which resulted in, or could reasonably have resulted in a catastrophic release.

(b) An incident investigation shall be initiated as promptly as possible, but not later than 48 hours following the incident.

(c) A summary shall be prepared at the conclusion of the investigation which includes at a minimum:

- (1) Date of incident;
- (2) Date investigation began;
- (3) A description of the incident;
- (4) The factors that contributed to the incident; and,
- (5) Any recommendations resulting from the investigation.

(d) The owner or operator shall promptly address and resolve the inves-

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tigation findings and recommendations. Resolutions and corrective actions shall be documented.

(e) The findings shall be reviewed with all affected personnel whose job tasks are affected by the findings.

(f) Investigation summaries shall be retained for five years.

Subpart D—Program 3 Prevention Program

SOURCE: 61 FR 31722, June 20, 1996, unless otherwise noted.

§ 68.65 Process safety information.

(a) In accordance with the schedule set forth in § 68.67, the owner or operator shall complete a compilation of written process safety information before conducting any process hazard analysis required by the rule. The compilation of written process safety information is to enable the owner or operator and the employees involved in operating the process to identify and understand the hazards posed by those processes involving regulated substances. This process safety information shall include information pertaining to the hazards of the regulated substances used or produced by the process, information pertaining to the technology of the process, and information pertaining to the equipment in the process.

(b) Information pertaining to the hazards of the regulated substances in the process. This information shall consist of at least the following:

- (1) Toxicity information;
- (2) Permissible exposure limits;
- (3) Physical data;
- (4) Reactivity data;
- (5) Corrosivity data;
- (6) Thermal and chemical stability data; and
- (7) Hazardous effects of inadvertent mixing of different materials that could foreseeably occur.

NOTE TO PARAGRAPH (b): Material Safety Data Sheets meeting the requirements of 29 CFR 1910.1200(g) may be used to comply with this requirement to the extent they contain the information required by this subparagraph.

(c) Information pertaining to the technology of the process.

(1) Information concerning the technology of the process shall include at least the following:

- (i) A block flow diagram or simplified process flow diagram;
- (ii) Process chemistry;
- (iii) Maximum intended inventory;
- (iv) Safe upper and lower limits for such items as temperatures, pressures, flows or compositions; and,
- (v) An evaluation of the consequences of deviations.

(2) Where the original technical information no longer exists, such information may be developed in conjunction with the process hazard analysis in sufficient detail to support the analysis.

(d) Information pertaining to the equipment in the process.

(1) Information pertaining to the equipment in the process shall include:

- (i) Materials of construction;
- (ii) Piping and instrument diagrams (P&ID's);
- (iii) Electrical classification;
- (iv) Relief system design and design basis;
- (v) Ventilation system design;
- (vi) Design codes and standards employed;
- (vii) Material and energy balances for processes built after June 21, 1999; and
- (viii) Safety systems (e.g. interlocks, detection or suppression systems).

(2) The owner or operator shall document that equipment complies with recognized and generally accepted good engineering practices.

(3) For existing equipment designed and constructed in accordance with codes, standards, or practices that are no longer in general use, the owner or operator shall determine and document that the equipment is designed, maintained, inspected, tested, and operating in a safe manner.

§ 68.67 Process hazard analysis.

(a) The owner or operator shall perform an initial process hazard analysis (hazard evaluation) on processes covered by this part. The process hazard analysis shall be appropriate to the complexity of the process and shall identify, evaluate, and control the hazards involved in the process. The owner or operator shall determine and document the priority order for conducting

process hazard analyses based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process. The process hazard analysis shall be conducted as soon as possible, but not later than June 21, 1999. Process hazards analyses completed to comply with 29 CFR 1910.119(e) are acceptable as initial process hazards analyses. These process hazard analyses shall be updated and revalidated, based on their completion date.

(b) The owner or operator shall use one or more of the following methodologies that are appropriate to determine and evaluate the hazards of the process being analyzed.

- (1) What-If;
- (2) Checklist;
- (3) What-If/Checklist;
- (4) Hazard and Operability Study (HAZOP);
- (5) Failure Mode and Effects Analysis (FMEA);
- (6) Fault Tree Analysis; or
- (7) An appropriate equivalent methodology.

(c) The process hazard analysis shall address:

- (1) The hazards of the process;
- (2) The identification of any previous incident which had a likely potential for catastrophic consequences.

(3) Engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases. (Acceptable detection methods might include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors.);

- (4) Consequences of failure of engineering and administrative controls;
- (5) Stationary source siting;
- (6) Human factors; and
- (7) A qualitative evaluation of a range of the possible safety and health effects of failure of controls.

(d) The process hazard analysis shall be performed by a team with expertise in engineering and process operations, and the team shall include at least one employee who has experience and knowledge specific to the process being