

1910.119(c): EMPLOYEE PARTICIPATION

I. PROGRAM SUMMARY

The intent of this paragraph is to require employers to involve employees at an elemental level of the PSM program. Minimum requirements of an Employee Participation Program for PSM must include a written plan of action for implementing employee consultation on the development of process hazard analyses and other elements of process hazard management contained within 1910.119. The employer must also provide ready access to all the information required to be developed under the standard.

II. QUALITY CRITERIA REFERENCES

A. 1910.119(c): Employee Participation

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119(c) (1)

1. Does a written program exist regarding employee participation?

.119(c) (2)

2. Does the written program include consultation with employees and their representatives on the conduct and development of process hazard analyses and on the development of other elements in the PSM standard?

.119(c) (3)

3. Does the written program provide employees (including contractor employees) and their representatives access to process hazard analyses and all other information developed as required by the PSM standard?

B. On-site Conditions

Not applicable.

C. Interviews

.119(c) (2)

1. Based on interviews with a representative number of employees and their representatives, have they been consulted on the conduct and development of the process hazard analyses?

.119(c) (2)

2. Based on interviews with a representative number of employees and their representatives, have they been consulted on the development of other elements of the Process Safety Management program?

.119(c) (3)

3. Based on interviews with a representative number of employees (including contractor employees) and their representatives, have they been informed of their rights of access and provided access to process hazard analyses and to all other information required to be developed by the PSM standard?

(Ask about unreasonable delays in access to information and whether time is given during the working hours to access information required by the PSM standard.)

1910.119(d): PROCESS SAFETY INFORMATION

I. PROGRAM SUMMARY

The intent of this paragraph is to provide complete and accurate information concerning the process which is essential for an effective process safety management program and for conducting process hazard analyses. Therefore in accordance with the schedule set forth in paragraph (e)(1) the employer is required to compile written process safety information on process chemicals, process technology, and process equipment before conducting any process hazard analysis.

II. QUALITY CRITERIA REFERENCES

- A. 1910.119(d): Process Safety Information
- B. 1910.119(e)(1): Process Hazard Analysis
- C. 1910.1200: Hazard Communication

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119 (d)

1. Has written process safety information been compiled before conducting any process hazard analysis (PHA)?

.119(d) (1) .1200(g)

2. Is information included pertaining to the hazards of the highly hazardous chemicals used or produced by the process, and does the information include at least:

- toxicity information
- PEL's
- physical data
- reactivity data
- corrosivity data
- thermal and chemical stability data
- hazardous effects of inadvertent mixing of
- different materials that could likely occur?

NOTE: MSDS's meeting the requirements of 29 CFR

1910.1200(g) may be used to the extent they contain the information required.

.119(d) (2)

3. Is information included concerning the technology of the process, and does it include at least:

- a block flow diagram or simplified process flow diagram?
- process chemistry?
- maximum intended inventory?
- safe upper and lower limits?
- an evaluation of the consequences of deviations?

(Where the original technical information no longer exists, it may be developed in conjunction with the PHA.)

.119(d) (3)(i)

4. Is information included pertaining to equipment in the process, and does it include at least:

- materials of construction?
- piping and instrument diagrams (P & ID's)?
- electrical classification?
- relief system design and design basis?
- ventilation system design?
- design codes and standards employed?
- material and energy balances for processes built after May 26, 1992?
- safety systems (e.g. interlocks, detection or suppressions systems)?

.119(d) (3)(ii)

5. Has the employer documented that equipment complies with recognized, generally accepted good engineering practices?

(Review the documentation for evidence that compliance with the appropriate consensus standards has been researched.)

.119(d) (3) (iii)

6. Has the employer determined and documented that existing equipment designed and constructed in accordance with codes, standards, or practices no longer in general use are designed, maintained, inspected, tested, and operating in a safe manner?

(Documentation may be through methods such as: documenting successful prior operation procedures; documenting that the equipment is consistent with the appropriate editions of codes and standards; or performing an engineering analysis to determine that the equipment is appropriate for its intended use.)

.119(d)

B. On-site Conditions

1. Do observations of a representative sample of process chemicals and equipment indicate that the process information is complete?

(Information that does not correspond to the actual conditions demonstrates incomplete information. Check critical equipment and components to see if they have been properly identified.)

.119(d) (3)(ii)

2. Do observations of a representative sample of process components indicate that the process complies with recognized and generally accepted good engineering practice?

(Review a representative number of safety devices such as pressure relief devices for proper sizing according to the maximum anticipated pressure.)

.119(d) (3) (iii)

3. Do observations of a representative sample of the existing equipment designed and constructed according to codes, standards, or practices no longer in general use indicate that this equipment is inspected and is operated in a safe manner (as documented by the employer)?

.119(d)

C. Interviews

Process Hazard Analysis (PHA) Team:

1. Based on interviews with a representative number of PHA team members, was the process safety information complete before the process hazard analysis was conducted?

.1200

Operators:

2. Based on interviews with a representative number of operators, is MSDS information readily available to the operators who work with hazardous materials?

.119(d) (3)(ii)

Engineers (if any; or other qualified persons capable of providing the information requested; see NOTE, p. A<->2):

3. Based on interviews with a representative number of engineers, has the employer documented that the process equipment complies with recognized and generally accepted good engineering practice? (Ask about the technical bases for design and selection of equipment, the materials of construction, electrical classifications, relief devices sizing versus maximum anticipated pressures, installation procedures to assure equipment meets design specifications, etc.)

For more information on Process Safety Information, see Appendix D, references 8.and 9.

1910.119(e): PROCESS HAZARD ANALYSIS

I. PROGRAM SUMMARY

The intent of this paragraph is to require the employer to develop a thorough, orderly, systematic approach for identifying, evaluating and controlling processes involving highly hazardous chemicals. Minimum requirements include:

- (1) Setting a priority order and conducting analyses according to the required schedule;
- (2) Using an appropriate methodology to determine and evaluate the process hazards;
- (3) Addressing process hazards, previous incidents with catastrophic potential, engineering and administrative controls applicable to the hazards, consequences of failure of controls, facility siting, human factors, and a qualitative evaluation of possible safety and health effects of failure of controls on employees;
- (4) Performing PHA by a team with expertise in engineering and process operations, the process being evaluated, and the PHA methodology used;
- (5) Establishing a system to promptly address findings and recommendations, assure recommendations are resolved and documented, document action taken, develop a written schedule for completing actions, and communicate actions to operating, maintenance and other employees who work in the process or might be affected by actions;
- (6) Updating and revalidating PHA's at least every 5 years; and
- (7) Retaining PHA's and updates for the life of the process.

II. QUALITY CRITERIA REFERENCES

A. 1910.119(e): Process Hazard Analysis

III. VERIFICATION OF PROGRAM ELEMENTS

Criteria Reference	Met Y/N
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A. Records Review.

.119(e) (1)

1. Has the employer determined and documented a priority order for conducting initial PHA's based on a rationale that includes at least these factors:

- xthe extent of process hazards
- xnumber of potentially affected employees
- xage of process
- xoperating history?

.119(e) (1)

2. Are the initial PHA's for processes covered by the PSM standard being performed as soon as possible?

.119(e) (1)

3. Does the priority schedule for PHA's assure that all initial PHA's will be performed by 5/26/97 and that:

- xNo less than 25% of the PHA's shall be completed by 5/26/94?
- xNo less than 50% of the PHA's shall be completed by 5/26/95?
- xNo less than 75% of the PHA's shall be completed by 5/26/96?

(PHA's completed after May 26, 1987 which meet the requirements of this paragraph are acceptable as initial PHA's; they must be updated and revalidated at least every 5 years.)

.119(e) (2)

4. Does the hazard evaluation use one or more of the following PHA methodologies:

- xWhat-if?

- ×Checklist?
- ×What-if/Checklist?
- ×Hazard & Operability Study (HAZOP)?
- ×Failure Mode and Effects Analysis (FMEA)?
- ×Fault Tree Analysis (FTA)?
- ×Other appropriate methodology?

(See Appendix B for a discussion of appropriate methodologies).

.119(e) (3)

5. Does the PHA address the following:

- ×The hazards of the process?
- ×Previous incidents with likely potential for catastrophic consequences?
- ×Consequences of failure of engineering and administrative controls?

(For example, potential injury, maximum release of hazardous, materials, property damage, etc.)

×Engineering and administrative controls applicable to the hazards and their interrelationships?

(Such controls may include appropriate application of detection methodologies to provide early warning of releases; inventory reduction; substitution of less hazardous materials; protective systems such as deluges, monitors, foams; increased separation distances; modification of the process temperature or pressure; redundancy in instrumentation; etc.)

- ×Facility siting?

(Review calculations, charts, and other documents that verify facility siting has been considered. For example, safe distances for locating control rooms may be based on studies of the individual characteristics of equipment involved such as: types of construction of the room, types and quantities of materials, types of reactions and processes, operating pressures and temperatures, presence of ignition sources, fire protection facilities, capabilities to respond to explosions, drainage facilities, location of fresh air intakes, etc.)

- ×Human factors?

(Such factors may include a review of operator/process and operator/equipment interface, the number of tasks operators must perform and the frequency, the evaluation of extended or unusual work schedules, the clarity and simplicity of control displays, automatic instrumentation versus manual procedures, operator feedback, clarity of signs and codes, etc.)

×A qualitative evaluation of a range of possible safety and health effects of failure of controls on employees in the workplace?

.119(e)(4)

6. Are the process hazard analyses performed by teams with expertise in engineering and process operations, including at least one employee with experience and knowledge specific to the process being evaluated and one member knowledgeable in the specific PHA methodology used?

.119(e) (5)

7. Has a system been established to promptly address the team's findings and recommendations?

Review a representative sample of the documentation. Has the system been able to:

- × Assure that the recommendations are resolved

and documented in a timely manner?

× Document actions to be taken?

X Complete actions as soon as possible?

× Develop a written schedule of when actions are to be completed?

× Communicate the actions to operating, maintenance and other employees whose work assignments are in the process and who may be affected by the recommendations or actions?

.119(e) (6)

8. Are the PHA's updated and revalidated at least every five years by a qualified team meeting the requirements in paragraph (e)(4), to assure that the process hazard analysis is consistent with the current process?

.119(e) (7)

9. Are all initial PHA's updates or revalidations, and documented resolutions of recommendations kept for the life of the process?

B. On-site Conditions

.119(e)(1)

1. Do observations of a representative sample of process-related equipment indicate that obvious hazards have been identified, evaluated, and controlled?

(For example, hydrocarbon or toxic gas monitors and alarms are present; electrical classifications are consistent with flammability hazards; destruct systems such as flares are in place and operating; control room siting is adequate or provisions have been made for blast resistant construction, pressurization, alarms, etc.; pressure relief valves and rupture disks are properly designed and discharge to a safe area; pipework is protected from impact; etc.)

.119(e) (5)

2. Do observations of a representative sample of process-related equipment indicate that PHA recommendations have been promptly resolved?

C. Interviews

.119(e) (1)

PHA Team Members:

1. Based on interviews with a representative number of the PHA team members, are the PHA methodologies used appropriate for the complexity of the process?

.119(e) (1)

2. Based on interviews with a representative number of the PHA team members, is the priority order for conducting PHA's based on the extent of the process, the number of potentially affected employees, the age of the process, and the operating history of the process?

.119(e) (3).

3. Based on interviews with a representative number of the PHA team members, have the following been addressed:

×The hazards of the process?

×Previous incidents with likely potential for catastrophic consequences?

×Engineering and administrative controls applicable to the hazards?

×Consequences of control failures?

×Facility siting?

×Human factors? (Ask about shift rotations extended schedules, and other possible sources of error.)

×A qualitative evaluation of a range of possible safety and health

effects of failure of controls on employees in the workplace?

.119(e) (4).

4. Based on interviews with a representative number of the PHA team members, do the members have the appropriate expertise in engineering, process operations, and the process methodology used? Does one member of the team have experience and knowledge in the specific process?

.119(e)(5)

5. Based on interviews with a representative number of the PHA team members, does the system established by the employer address the team's findings and recommendations promptly?

.119(e) (3).

Operators and maintenance:

6. Based on interviews with a representative number operator and maintenance employees, have the PHA's addressed the recognized hazards of the process and previous incidents, which had a likely potential for catastrophic consequences?

.119(e) (5)

7. Based on interviews with operator, maintenance, and other employees who may be affected by PHA recommendations, have actions taken to resolve PHA findings been communicated to these employees?

For more information on PHA, see Appendix D, references: 8.; 9.; 10.; 11.; 12.; 13.; 14.; 15.; 16.; 17.; 25.; 26.; 27, Part I, Section UG-125; 31.; 32.; and 33.

1910.119(f): OPERATING PROCEDURES

I. PROGRAM SUMMARY

The intent of this paragraph is to provide clear instruction for conducting activities involved in covered processes that are consistent with the process safety information. The operating procedures must address steps for each operating phase, operating limits, safety and health considerations, and safety systems and their functions.

II. QUALITY CRITERIA REFERENCES

- A. 1910.119(f)
- B. 1910.120
- C. 1910.147
- D. 1910.1000
- E. 1910.1200

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119(f) (1)

1. Do written operating procedures exist for each covered process? Do the procedures provide clear instructions for conducting activities safely?

FIELD NOTE REFERENCES(S):

.119(f) (1)(i)

2. Do the operating instructions address, as a minimum, steps for each operating phase, including:

- Initial start-up?
- Normal operations?
- Temporary operations?
- Emergency shutdowns?
- Conditions requiring emergency shutdown?
- Assignment of shutdown responsibility to qualified operators?
- Emergency operations?
- Normal shutdown?
- Start-ups following a turnaround or emergency shutdown?

.119(f) (1)(ii)

3. Do the operating procedures include operating limits that outline consequences of process deviation and steps required to correct or avoid deviations?

.119(f) (1) (iii)

4. Have safety and health considerations been included in the operating procedures? Do they include at a minimum:

- Properties of, and hazards presented by, chemicals used in the process?
- Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment?
- Control measures to be taken if physical contact or airborne exposure occurs?
- Quality control for raw materials and control of hazardous chemical inventory levels?
- Any special or unique hazards?

.119(f) (1)(iv)

5. Are safety systems and their functions included in the operating procedures?)

.119(f(1))

6. Are the operating instructions consistent with the process safety information?

.119(f) (2)

7. Are operating procedures readily accessible to employees who work in or maintain a process?

.119(f) (3)

8. Are operating procedures reviewed as often as necessary to assure that they reflect current operating practice? Are they certified annually by the employer that they are current and accurate? Do they reflect current operating practice that have resulted from changes in:

- × Process chemicals?
- × Technology?
- × Equipment?
- × Facilities?

119(f) (4)

9. Have safe work practices been developed and implemented for employees and contractors to control hazards during operations such as:

- × Lockout/tagout?
- × Confined space entry?
- × Opening process equipment or piping?
- × Control over entrance into a facility by maintenance, contractor, laboratory or other support personnel?

.119(f) (1)

B. On-site Conditions

1. Does observation of a representative sample of processes indicate that the written operating procedures are being implemented?

.119(f) (2)

2. Does observation of a representative sample of processes indicate that the written operating procedures are readily accessible to employees who work or maintain a process?

.119(f) (3)

3. Does observation of a representative sample of processes indicate that operating procedures reflect current practice, including changes that result from process chemicals, technology, equipment, and facilities? (Observe to see if actual procedures match the written operating procedures.)

119(f) (4)

4. Does observation of representative operations indicate that safe work practices have been implemented for company and contractor employees? Do such work practices include, where appropriate:

- ×Lockout/tagout?
- ×Confined space entry?
- ×Opening process equipment or piping?
- ×Control over entrance into a facility by maintenance, contractor, laboratory, and other support personnel?

.119(f) (1)

C. Interviews

1. Based on interviews with a representative number of operators, are the written operating procedures implemented for each covered process?

.119(f) (1)

FIELD NOTE REFERENCE(S)

2. Based on interviews with a representative number of operators, do operating procedures provide clear instructions for safely conducting activities? (Specifically ask for conditions requiring emergency shutdown, the operating limits of a particular process or item of equipment, what might occur if a deviation from those limits should take place, steps to avoid the deviation, and precautions necessary to prevent exposure to hazardous chemicals.)

.119(f) (2)

3. Based on interviews with a representative number of employees who work in or maintain a process, are the operating procedures readily accessible?

.119(f) (3)

4. Based on interviews with a representative number of operators and maintenance employees, do the operating procedures reflect current operating practice?

1910.119(g): TRAINING

I. PROGRAM SUMMARY

The intent of this paragraph helps employees understand the nature and causes of problems arising from process operations, and increases employee awareness with respect to the hazards particular to a process. An effective training program significantly reduces the number and severity of incidents arising from process operations, and can be instrumental in preventing small problems from leading to a catastrophic release. Minimum requirements for an effective training program include: Initial Training, Refresher Training, and Documentation.

II. QUALITY CRITERIA REFERENCES

A. 1910.119(g): Training

B. 1910.119(f)(1): Operating procedures

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119(g) (1)(i)

1. For employees and contractor employees involved in operating a process do initial and refresher training records exist? Do the records contain the identity of the employee, the date of the training, and the means used to verify that the employee understood the training?

.119(g) (1)(i)

2. Has each employee and contractor employee been trained before being involved in a newly assigned process (except employees involved in operating a process prior to 5/26/92)?

.119(g) (1)(ii)

3. If initial training has not been given to employees and contractor employees involved in operating a process prior to 5/26/92, is there written certification that they have the required knowledge, skills and abilities to safely carry out the duties and responsibilities specified in the operating procedures? (Review the documents to make sure the certification has not been] invalidated by a change in duties.)

.119(g) (1)(i)

4. Has each employee and contractor employee involved in operating a process been trained in an overview of the process and the operating procedures including:

×Steps for each operating phase?

Initial startup, normal operations, temporary operations, emergency shutdown, Emergency operations, normal shutdown, and startup following a turnaround or emergency shutdown

×Operating limits?

Consequences of deviations and steps required to avoid deviations

×Safety and health considerations?

Properties and hazards of chemicals used and precautions for preventing exposure

×Safety systems and their functions?

.119(g) (2)

5. Has the employer consulted with employees and contractor employees involved in operating the process to determine the appropriate frequency for refresher training? Is the frequency at least once every 3 years?

B. On-site Conditions

Verification is not required.

.119(g) (1) or (2)

B. Interviews

.119(g) (1)(i)

1. Based on interviews with a representative number of employees, has their training emphasized specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to their tasks?

.119(g) (2)

2. Based on interviews with employees named as having provided consultation, has the employer consulted with employees involved in operating the process to determine the appropriate frequency of refresher training?

1910.119(h): CONTRACTORS

I. PROGRAM SUMMARY

The intent of this paragraph is to require employer who use contractors to perform work in and around processes that involve highly hazardous chemicals to establish a screening process so that they hire and use contractors who accomplish the desired job tasks without compromising the safety and health of employees at a facility. The contractor must assure that contract employees are trained on performing the job safely, of the hazards related to the job, and applicable provisions of the emergency action plan. NOTE: The term contractor includes subcontractors

II. QUALITY CRITERIA REFERENCES

- A. 1910.119(h)
- B. 1910.119(f)(4)
- C. 1910.119(n)
- D. 29 CFR 1926 Subpart C (for contractors engaged in construction work)
- E. 1910.119 Appendix C, 57 Fed. Reg. 6412/3
- F. 1910.119 Appendix D, Sources 7, 9, and 10

NOTE: Other provisions of 1910.119 such as (g) and (j) may also apply in appropriate circumstances.

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review - Employer's Program

.119(h) (1)

1. Does the program include all contractors activities that have the potential for affecting process safety, including--but not limited to--contractors performing maintenance or repair, turnaround, major renovation or specialty work on or adjacent to covered processes?

(Contractors performing incidental services which do not influence process safety such as janitorial work, food and drink services, laundry, delivery, and other supply services need not be included. However, contractors performing construction, demolition, equipment installation, and other work that may affect the safety of a covered process should be included.)

.119(h) (2)(i)

2. Is the information regarding the contractor's safety performance and programs obtained and evaluated for selection of contractors?

.119 Appndxs C& D

.119(h) (2)(ii)

3. Are the contract employers informed, prior to the initiation of the contractors' work at the site, of the known potential fire, explosion, or toxic release hazards related to the contractor's work and the processes?

.119(h) (2) (iii)

4. Are contract employers informed, prior to the initiation of the contractors' work at the site, of the applicable provisions of the emergency action plan required by.119(n)?

.119(h) (2)(iv)

5. Have safe work practices to control the entrance, presence and exit of contract employers and contract employees in covered process areas been developed and implemented?

.119(f) (4)

.119(h) (2)(v)

6. Are contract employers periodically evaluated for their performance in fulfilling their obligations to:

- ×Assure their employees are trained in safe work practices needed to perform the job?
- ×Assure their employees are instructed in the known potential fire, explosion, or toxic release hazards related to the job and the applicable provisions of the emergency action plan?
- ×Document the required training and the means to verify their employees have understood the training?
- ×Assure their employees follow the facility safety rules and work practices?
- ×Advise the employer of unique hazards presented by the contractor's work?

.119(h)(2)(v)

7. Has the host employer ensured, through periodic evaluations, that the training provided to contractor employees by the contractor employer is equivalent to the training required for direct hire employees?

.119(h)(2)(v)

8. If the employer has identified deficiencies in the performance of contract employers, what action has the employer taken to correct the deficiencies?

.119(h) (2)(vi)

9. Does the employer maintain a contract employee injury and illness log related to the contractor's work in process areas?

Records Review - Contractor's Programs

.119(h) (3)(i)

10. Are all contractor employees trained in the work practices necessary to perform their jobs safely?

119(h) (3)(ii)

11. Is each contract employee instructed in the known potential fire, explosion, or toxic release hazards related to his/her job and the processes and applicable provisions of the emergency action plan?

.119(h) (3) (iii)

12. Is there documentation that each contract employee has received and understands the required training?

.119(h) (3) (iii)

13. Do the contract employee training records contain the following:

- ×The identity of the employee?
- ×The date of the training?
- ×The means used to verify that the training was understood?

.119(h) (3)(iv)

14. Are there means to assure that contract employees follow the safety rules of the facility, including safe work practices required in .119(f)(4)?

.119(f) (4)

(Review evidence of enforcement by the contractor.)

.119(h) (3)(v)

15. Is the employer advised of any unique hazards presented by the contract employer's work or any hazards found by the contract employer's work?

B. On-site Conditions

.119(h) (2)(iv)

1. Based on a representative sample of observations of contractor employees, has the employer's program to control their entrance, presence, and exit been implemented?

.119(h) (3)(iv)

2. Based on a representative sample of observations of contractor employees, do they follow the safety rules of the facility?

(These rules include the employer's safe work practices such as lockout/tagout, confined space entry, and opening process equipment or piping; they may also include other rules such as excavation procedures or use of PPE.)

C. Interviews

.119 Appndxs C & D

.119(h) (2)(i)

1. Based on interviews with contractor employers, did the host employer obtain and evaluate information regarding the contractor's safety performance and programs for selection of contractors?

.119(h) (2)(ii)

2. Based on interviews with contractor employers, have they been informed of the known fire, explosion, or toxic release hazards related to their work and the processes in which they are involved prior to the initiation of their work at the site?

.119(h) (2)(iii)

3. Based on interviews with contractor employers, have they been informed of the applicable provisions of the employer's emergency action plan prior to the initiation of their work at the site?

.119(h) (2)(iv)

4. Based on interviews with contractor employers and employees, have work practices to control their entrance, presence, and exit of covered process areas been implemented?

.119(h) (2)(v)

5. Based on interviews with the contractor employer, has the employer periodically evaluated the contractor's performance in fulfilling the obligations required in .119(h)(3) to:

- × Assure their employees are trained in safe work practices needed to perform the job?
- × Assure their employees are instructed in the known potential fire, explosion, or toxic release hazards related to the job and the applicable provisions of the emergency action plan?
- × Document the required training and the means to verify their employees have understood the training?
- × Assure their employees follow the facility safety rules and work practices?
- × Advise the employer of unique hazards presented by the contractor's work?

.119(h)(2)(v)

6. Based on interviews with the contractor's employer, has the host employer ensured, through periodic evaluations, that the training provided to contractor employees by the contractor employer is equivalent to the training required for direct hire employees?

.119(h)(2)(v)

7. Based on interviews with the contractor employer, if the employer has identified deficiencies in the performance of contract employers, what action has the employer taken to correct the deficiencies?

.119(h)(3)(i)

8. Based on interviews with a representative number of contractor employees, has the contractor employer trained them in the work practices necessary to perform their jobs?

.119(h) (3)(ii)

9. Based on interviews with a representative number of contractor employees, are they being instructed in the known potential fire, explosion, or toxic release hazards related to their work and the processes in which they are involved?

.119(h) (3)(ii)

10. Based on interviews with a representative number of contractor employees, have they been instructed in the applicable provisions of the emergency action plan?

(Ask them to explain the plan and evacuation procedures.)

.119(h) (3)(iv)

11. Based on interviews with a representative number of contractor employees, has the contractor employer assured that they follow the safety rules of the facility?

(Ask how safe work practices, entry restrictions for the facility, and use of required PPE are enforced.)

For additional information on Contractors, see Appendix D, reference 16.

1910.119(i): PRE-STARTUP SAFETY REVIEW

I. PROGRAM SUMMARY

The intent of this paragraph is to make sure that, for new facilities and for modified facilities when the modification necessitates a change to process safety information, certain important considerations are addressed before any highly hazardous chemicals are introduced into the process. Minimum requirements include that the pre-startup safety review confirm the following: construction and equipment is in accordance with design specifications; safety, operating, maintenance, and emergency procedures are in place and adequate; for new facilities, a PHA has been performed and recommendations resolved or implemented; modified facilities meet the requirements of paragraph (l), management of change; and training of each employee involved in the process has been completed.

II. QUALITY CRITERIA REFERENCES

- A. 1910.119(i): Pre-startup Safety Review
- B. 1910.119(l): Management of Change

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119(i) (1)

1. Has a pre-startup safety review been performed for all new facilities and for modified facilities when the modification is significant enough to require a change in process safety information?

.119(i) (2)

2. Do pre-startup safety reviews confirm that prior to the introduction of highly hazardous chemicals to a process:

- × Construction and equipment is in accordance with design specifications?
- × Safety, operating, maintenance, and emergency procedures are in place and adequate?
- × For new facilities, a PHA has been performed and recommendations resolved or implemented before startup?
- × Modified facilities meet requirements of paragraph (l)?
- × Training of each employee involved in operating the process has been completed?

On-site Conditions

.119(i)(2)

1. Do observations of new or modified facilities indicate that prior to the introduction of highly hazardous chemicals:

- × Construction and equipment is in accordance with design specifications?
- × Safety, operating, maintenance, and emergency procedures are in place and adequate?

C. Interviews [See NOTE, p. A-2.]

.119(i) 2(i)

1. Based on interviews with a representative sample of operators, maintenance employees, and engineers, can it be confirmed that the construction and equipment are in accordance with design specifications prior to introducing highly hazardous chemicals to a process?

.119(i) 2(ii)

2. Based on interviews with a representative sample of operators, maintenance employees, and engineers, are safety, operating, maintenance, and emergency procedures in place prior to introduction of highly hazardous chemicals into a process? Are these procedures adequate?

.119(i) 2(iii)

3. Based on interviews with a representative sample of operators, maintenance employees, and engineers, is a PHA performed and are recommendations resolved prior to a startup that introduces highly hazardous chemicals into a new process?

.119(i) 2(iii)

4. Based on interviews with a representative sample of operators, maintenance employees, and engineers, do modified facilities meet requirements of paragraph (l), Management of Change prior to introducing a highly hazardous chemical?

.119(i) (2)(iv)

5. Based on interviews with a representative sample of operators, is training completed for each employee involved in operating the process prior to the introduction of a highly hazardous chemical?

1910.119(j): MECHANICAL INTEGRITY

I. PROGRAM SUMMARY

The intent of this paragraph is to assure that equipment used to process, store, or handle highly hazardous chemical[s] is designed, constructed, installed, and maintained to minimize the risk of releases of such chemicals. This requires that a mechanical integrity program be in place to assure the continued integrity of process equipment. The elements of a mechanical integrity program include the identification and categorization of equipment and instrumentation, development of written maintenance procedures, training for process maintenance activities, inspection and testing, correction of deficiencies in equipment that are outside acceptable limits defined by the process safety information, and development of a quality assurance program.

II. QUALITY CRITERIA REFERENCES

A. .119(j): Mechanical Integrity

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119 (j) (1)

1. Does the written mechanical integrity program include?

- xPressure vessels and storage tanks
- xPiping systems and components such as valves
- xRelief and vent systems and devices
- xEmergency shutdown systems
- xControls (including monitoring devices and sensors, alarms and interlocks)
- xPumps

.119(j) (2)

2. Are there written procedures to maintain the on-going integrity of process equipment? Does the documentation indicate the procedures have been implemented?

.119(j) (3)

3. Has training been provided to each employee and contractor employee involved in maintaining the on-going integrity of process equipment in the following:

- × An overview of the process and its hazards?
- × Procedures applicable to the employee's job tasks to assure that the employee can perform the job tasks in a safe manner?

(Review certification documents for employees doing non-destructive tests, welding on pressure vessels, etc., where these certifications are required.)

.119(j) (4)(i)

4. Are inspections and tests performed on each item of process equipment included in the program?

.119(j)(4)(ii)

5. Do inspection and testing procedures follow good engineering practices?

.119(j) (4) (iii)

6. Are inspection and test frequencies consistent with the manufacturer's recommendation and good engineering practice? Are inspections and tests performed more frequently if determined necessary by operating experience?

.119(j) (4)(iv)

7. Is there documentation of each inspection and test that has been performed including all of the following:

- ×Date of the inspection or test?
- ×Name of person performing the procedure?
- ×Serial number or other identifier of equipment on which procedure was performed?
- ×Description of inspection or test performed?
- ×Results of inspection or test?

.119(j) (5)

8. Are deficiencies in equipment that are outside limits (as defined in process safety information) corrected before further use or in a safe and timely manner when necessary means are taken to assure safe operation?

.119(j) (6)(i)

9. In the construction of new plants and equipment, does the employer assure that equipment as it is fabricated is suitable for the process for which it will be used?

.119(j) (6)(ii)

10. Have appropriate checks and inspections been made to assure equipment is installed properly and consistent with design specifications and manufacturer's instructions? (Include contractor supplied equipment.)

.119(j)(6) (iii)

11. Does the employer assure that maintenance materials, spare parts, and equipment are suitable for the process application for which they are used? (Include contractor supplied equipment.)

B. On-site Conditions

.119(j) (5)

1. Do observations of a representative sample of process equipment indicate deficiencies outside acceptable limits? (Compare process safety information criteria with the conditions of the equipment found in the process.)

.119(j) (6)(i)

2. If new plants or equipment are being constructed, do observations indicate that the equipment as it is fabricated is suitable for the process application?

.119(j) (6) (iii)

3. Do observations of a representative sample of maintenance materials, spare parts, and equipment indicate that they are suitable for the process application for which they will be used?

C. Interviews

Engineers (if any; or other qualified persons capable of providing the information requested; see NOTE, p. A-2):

.119(j) (2)

1. Based on interviews with a representative number of engineers, have procedures to maintain the on-going integrity of the process equipment been implemented for:

- xPressure vessels and storage tanks?
- xPiping systems and components such as valves?
- xRelief and vent systems and devices?
- xEmergency shutdown systems?
- xControls (including monitoring devices and sensors, alarms and interlocks)?
- xPumps?

(Ask about the possibility of safety critical equipment being inadvertently rendered inoperative. For example, a relief device might be isolated by closing an upstream valve.)

.119(j) (4)

2. Based on interviews with a representative number of engineers, do the inspection and testing procedures follow recognized and generally accepted good engineering practice? Has prior operating experience indicated a need for a more frequent test and inspection schedule than has

been implemented?

.119(j) (5)

3. Based on interviews with a representative number of engineers, are equipment deficiencies corrected before use when they are outside the acceptable limits? If not, are the deficiencies corrected in a timely manner and are necessary means taken to assure safe operation? **yes**

.119(j) (6)

4. Based on interviews with a representative number of engineers, has the employer assured that, for new plants and equipment, the equipment as it is fabricated is suitable for the process application? Are appropriate checks and inspections made to assure equipment is installed properly and consistent with design specifications and manufacturer's instructions? Are maintenance materials, spare parts, and equipment suitable for the process application for which they will be used? (Ask about contractor supplied items.)

Maintenance:

.119(j) (2)

5. Based on interviews with a representative number of maintenance employees (and, where applicable, contractor maintenance employees), have the written procedures for maintaining the on-going integrity of process equipment been implemented?

119(j) (3)

6. Based on interviews with a representative number of employees and contractor employees involved in maintaining the on-going integrity of the process, have they been trained to assure they can perform their tasks in a safe manner? Did the training include an overview of the process, its hazards, and procedures applicable to the job? (Determine if certification, specialized training, or unique qualifications are required.)

.119(j) (4)

7. Based on interviews with a representative number of maintenance employees, do test and inspection procedures follow recognized and generally accepted good engineering practices? Is the frequency of inspections and tests consistent with applicable manufacturer's recommendations and good engineering practices? Are more frequent inspections and tests necessary due as indicated by prior operating experience?

.119(j) (5)

8. Based on interviews with a representative number of maintenance employees, are equipment deficiencies that are outside acceptable limits corrected before further use? If not, are corrections made in a timely manner and are necessary means taken to assure operation?

.119(j) (6)

9. Based on interviews with a representative number of maintenance employees, are maintenance materials, spare parts and equipment suitable for the process application for which they are intended? (Ask about availability and use of substitutes.)

For additional information on Mechanical Integrity, see Appendix D, references:

9.; 18.; 19.; 20.; 21.; 22.; 23.; 27.; 28.; 29.; and 34.

1910.119(k): HOT WORK PERMIT

I. PROGRAM SUMMARY

The intent of this paragraph is to require employers to control, in a consistent manner, nonroutine work conducted in process areas. Specifically, this subparagraph is concerned with the permitting of hot work operations associated with welding and cutting in process areas. Minimum requirements include: that the employer issue a hot work permit for hot work operations conducted on or near a covered process and that hot work permits shall document compliance with the fire prevention and protection requirements of 29 CFR 1910.252(a).

II. QUALITY CRITERIA REFERENCES

- A. 1910.119(k): Hot Work Permit
- B. 1910.252(a): Fire Prevention and Protection

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

1)

.119(k) (

1. Have hot works permits been issued for all hot work operations conducted on or near a process covered by this standard?

.119(k) (2)

2. Do the hot work permits indicate the date(s) authorized for hot work performed?

.119(k) (2)

3. Do the hot work permits describe the object on which the hot work is to be performed?

.119(k) (2)

4. Have the hot work permits been kept on file until the hot work operations were complete?

.252(a) (2)(i)

5. Have the hot work permits identified openings, cracks and holes where sparks may drop to combustible materials below?

.252(a) (2)(ii)

6. Have the hot work permits described the fire extinguishers required to handle any emergencies?

.252(a) (2) (iii)

7. Have the hot work permits assigned fire watchers whenever welding is performed in locations where other than a minor fire might develop?

.252(a) (2)(iv) & 252(a) (2) (xiii) (A)

8. Are the hot work permits being authorized, preferably in writing, by the 'individual' responsible for all welding and cutting operations? Is authorization preceded by site inspection and designation of appropriate precautions?

.252(a) (2)(v) & .252(a) (2)(ix)

9. Have the hot work permits described precautions associated with combustible materials on floors or floors, walls, partitions, ceilings or roofs of combustible construction?

.252(a) (2)(vi)

10. Has hot work permitting been successful in prohibiting welding in unauthorized areas, in sprinklered buildings while such protection is impaired, in the presence of explosive atmospheres, and in storage areas for large quantities of readily ignitable materials?

.252(a) (2) (vii)

11. Have the hot work permits required relocation of combustibles where practicable and covering with flameproofed covers where not practicable?

.252(a) (2) (viii)

12. Have hot work permits identified for shutdown any ducts or conveyors systems that may convey sparks to distant combustibles?

.252(a) (2)(x) & .252(a) (2) (xii)

13. Have hot work permits required precautions whenever welding on components (e.g., steel members, pipes, etc.) that could transmit heat by radiation or conduction to unobserved combustibles?

.252(a)(2)(xi)

14. Have hot work permits identified hazards associated with welding on walls, partitions, ceilings or roofs with combustible coverings or welding on walls or panels of sandwich-type construction?

.252(a) (2) (xiii)

15. Has management established areas and procedures for safe welding and cutting based on fire potential?

.252(a) (2) (xiii) (B)

16. Has management designated the 'individual' responsible for authorizing cutting and welding operations in process areas?

.252(a) (2) (xiii) (C)

17. Has management ensured that welders, cutters and supervisors are trained in the safe operation of their equipment?

.252(a) (2) (xiii) (D)

18. Has management advised outside contractors working on their site about all hot work permitting programs?

.252(a) (2) (xiv) (A)(B) & (C)

19. Has the Supervisor determined if combustibles are being protected from ignition prior to welding by moving them, shielding them, or scheduling welding around their production?

.252(a) (2) (xiv) (D)

20. Has the Supervisor, prior to welding, secured authorization from the responsible 'individual' designated by management?

C. On-Site Conditions

.119(k) & .252(a)

1. Conduct checks of current welding and cutting operations to ensure compliance with the requirements of 1910.119(k) and 1910.252(a). The twenty items listed above in 'Records Review' may serve as an audit checklist. A management representative, the 'individual' responsible for welding operations and the supervisor should all be invited to participate in this on-site check.

D. Interviews-Employees and Contractors

.252(a) (2)(xiv) (E), (F) &(G)

1. Based on interviews with a representative number of maintenance and contractor employees, has the Supervisor visited welding work operations to verify that:

- ×Welders have approval for safe go ahead prior to welding?
- ×Fire protection and extinguishing equipment is properly located at the work site?
- ×Fire wathces are functional, where required?

.119(k) (1)

2. Based on interviews with a representative number of maintenance and contractor employees, have hot work permits been issued for all hot work operations conducted on or near a process covered by this standard?

.119(k) (2)

3. Based on interviews with a representative number of maintenance and contractor employees, have the hot work permits been kept on file until the hot work operations were complete?

.252(a)(2)(i))

4. Based on interviews with a representative number of maintenance and contractor employees, have the hot work permits identified openings, cracks and holes where sparks may drop to combustible materials below?

.252(a) (2) (iii)

5. Based on interviews with a representative number of maintenance and contractor employees, have the hot work permits assigned fire watchers whenever welding is performed in locations where other than a minor fire might develop?

.252(a) (2)(iv) & .252(a) (2) (xiii) (A)

6. Based on interviews with a representative number of maintenance and contractor employees, are the hot work permits being authorized, preferably in writing, by the 'individual' responsible for all welding and cutting operations? Is authorization preceded by site inspection and designation of appropriate precautions?

.252(a) (2)(v) & .252(a) (2)(ix)

7. Based on interviews with a representative number of maintenance and contractor employees, have the hot work permits described precautions associated with combustible materials on floors or floors, walls, partitions, ceilings or roofs of combustible construction?

.252(a) (2)(vi)

8. Based on interviews with a representative number of maintenance and contractor employees, has hot work permitting been successful in prohibiting welding in:

- ×Unauthorized areas?
- ×Sprinklered buildings while such protection is impaired?
- ×The presence of explosive atmospheres?
- × Storage areas for large quantities of readily ignitable materials?

.252(a) (2) (vii)

9. Based on interviews with a representative number of maintenance and contractor employees, have the hot work permits required relocation of combustibles where practicable and covering with flameproofed covers where not practicable?

.252(a)(2) (viii)

10. Based on interviews with a representative number of maintenance and contractor employees, have hot work permits identified for shutdown any ducts or conveyors systems that may convey sparks to distant combustibles?

.252(a) (2)(x) & .252(a) (2) (xii)

11. Based on interviews with a representative number of maintenance and contractor employees, have hot work permits required precautions, whenever welding on components (e.g., steel members, pipes, etc.) that could transmit heat by radiation or conduction to unobserved combustibles?

.252(a) (2)(xi)

12. Based on interviews with a representative number of maintenance and contractor employees, have hot work permits identified hazards associated with welding on walls, partitions, ceilings or roofs with combustible coverings or welding on walls or panels of sandwich-type construction?

.252(a) (2) (xiii)

13. Based on interviews with a representative number of maintenance and contractor employees, has management established areas and procedures for safe welding and cutting based on fire potential?

.252(a) (2) (xiii) (B)

14. Based on interviews with a representative number of maintenance and contractor employees, has management designated the 'individual' responsible for authorizing cutting and welding operations in process areas?

.252(a) (2) (xiii)(C))

15. Based on interviews with a representative number of maintenance and contractor employees, has management ensured that welders, cutters and supervisors are trained in the safe operation of their equipment?

.252(a) (2) (xiii) (D)

16. Based on interviews with contractors and contractor employees, has management advised outside contractors working on the site about all hot work permitting programs?

.252(a) (2) (xiv) (A)(B) &(C)

17. Based on interviews with a representative number of maintenance and contractor employees, has the Supervisor determined if combustibles are being protected from ignition prior to welding by moving them, shielding them, or scheduling welding around their production?

1910.119(I): MANAGEMENT OF CHANGE

I. PROGRAM SUMMARY

The intent of this paragraph is to require management of all modifications to equipment, procedures, raw materials and processing conditions other than 'replacement in kind' by identifying and reviewing them prior to implementation of the change. Minimum requirements for management of change include: establishing written procedures to manage change; addressing the technical basis, impact on safety and health, modification to operating procedures, necessary time period, and authorizations required; informing and training employees affected; and updating process safety information and operating procedures or practices.

II. QUALITY CRITERIA REFERENCES

A. 1910.119(I): Management of Change

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119(I) (1)

1. Are there written procedures for managing changes (except for 'replacements in kind') to process chemicals, technology, equipment, and procedures and changes to facilities that affect a covered process?

(Review procedures that address responsibilities, steps for assessing risks and approving changes, requirements for reviewing designs for temporary and permanent changes, steps needed to verify that modifications have been made as designed, variance procedures, time limit authorizations for temporary changes, and steps required to return the process to status quo after temporary changes.)

.119(I) (2)(i)

2. Do the procedures assure that the technical basis for the proposed change is addressed prior to any change?

.119(I) (2)(ii)

3. Do the procedures assure that the impact of the change on safety and health is addressed prior to any change?

.119(I) (2) (iii)

4. Do the procedures assure that modifications to operating procedures is addressed prior to any change?

.119(I) (2)(iv)

5. Do the procedures assure that the necessary time period for the change is addressed prior to any change?

.119(I) (2)(v)

6. Do the procedures assure that the authorization requirements for the proposed change are addressed prior to any change?

.119(l) (3)

7. Are employees involved in operating a process, and maintenance and contract employees whose job tasks will be affected by change informed of, and trained in, the change prior to start-up of process or affected part of process?

.119(l) (4)

8. Is the process safety information required by paragraph (d) updated if changed?

.119(l) (5)

9. Are the operating procedures or practices required by paragraph (f) updated if changed?

B. On-site Conditions

.119(l) (1)

1. Do observations of new or recently modified process chemicals, technology, equipment, or procedures (except 'replacement in kind') indicate that the Management of Change procedures have been implemented?

(Determine if records are available to support the procedures for new or revised processes found in the facility.)

C. Interviews

Operators, Maintenance, and Contractor Employees:

.119(l) (1)

1. Based on interviews with operators, maintenance employees and contractor employees, are procedures implemented to manage changes to existing process chemicals, technology, equipment, facilities, and procedures?

.119(l) (3)

2. Based on interviews with operators, maintenance employees and contractor employees, is training in process changes provided to employees whose job tasks will be affected by the changes prior to start-up?

For additional information on Management of Change, see Appendix D, reference 9., Chapter 7.

1910.119(m): INCIDENT INVESTIGATIONS

I. PROGRAM SUMMARY

The employer is required to investigate each incident which resulted in, or could reasonably have resulted in a catastrophic release of highly hazardous chemical in the workplace. An investigation shall be initiated no later than 48 hours following the incident. An investigation team shall be established and a report prepared which includes:

- 1) 1) Date of incident
- 2) 2) Date investigation began
- 3) 3) Description of incident
- 4) 4) Factors that contributed to the incident
- 5) 5) Recommendations from the investigation.

The employer is required to establish a system to promptly address the incident report findings and recommendations, documenting all resolutions and corrective actions. Incident reports shall be reviewed with all affected personnel whose job tasks are relevant to the investigation and retained for five years.

II. QUALITY CRITERIA REFERENCES

A. 1910.119(m): Incident Investigations

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119(m) (1)

1. Has each incident been investigated which resulted in, or could reasonably have resulted in a catastrophic release of highly hazardous chemicals in the workplace?

.119(m) (2)

2. Have incident investigations been initiated as promptly as possible, but not later than 48 hours following the incident?

.119(m) (3)

3. Have incident investigation teams been established? Do the teams contain at least one person knowledgeable in the process involved in the incident, and other members with appropriate knowledge and experience to thoroughly investigate and analyze the incident? Has a contractor employee been included in the team if the incident involved work of the contractor?

.119(m) (4)

4. Have incident investigation reports been prepared at the conclusion of the investigation which include at minimum:

- × Date of the incident?
- × Date the inspection began?
- × A description of the incident?
- × The factors that contributed to the incident?
- × Any recommendations resulting from the investigation?

.119(m) (5)

5. Has a system been established to promptly address and resolve the incident investigation report findings and recommendations?

.119(m) (5)

6. Have resolutions and corrective actions from the incident investigation reports been documented?

.119(m) (6)

7. Have incident investigation reports been reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract employees, where applicable?

.119(m) (7)

8. Are incident investigation reports retained for five years?

B. On-site Conditions

.119(m) (5)

1. Do observations of a representative sample of process components involved in incident investigations indicate that recommendations have been resolved?

(Compare the corrective actions outlined in the investigation documentation with the actual equipment, procedures, material use, etc.)

C. Interviews

.119(m) (1)

1. Based on interviews with a representative number of operators, maintenance employees and contractor employees, have all incidents that resulted in or could reasonably have resulted in a catastrophic release of highly hazardous chemicals in the workplace, been investigated?

.119(m) (3)

2. Based on interviews with a representative number of the members of past investigation teams, do the teams contain at least one person knowledgeable in the process involved in the incident, and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident? Was a contractor employee included in the team if the incident involved work of the contractor?

.119(m) (6)

3. Based on interviews with a representative number of employees whose job tasks are relevant to the past incident investigation findings, have the investigation reports been reviewed with the affected personnel?

For additional information on Incident Investigations, see Appendix D, references 9. and 24.

1910.119(n): EMERGENCY PLANNING AND RESPONSE

I. PROGRAM SUMMARY

The intent of this paragraph is to require the employer to address what actions employees are to take when there is an unwanted release of highly hazardous chemicals. The employer must establish and implement an emergency action plan in accordance with the provisions of 29 CFR 1910.38(a) and include procedures for handling small releases. Certain provisions of the hazardous waste and emergency response standard, 29 CFR 1910.120(a), (p), and (q), may also apply.

[NOTE: 1910.120(a) addresses scope, application, and definitions for the entire standard. 1910.120(p) addresses treatment, storage, and disposal (TSD) facilities under the Resource Conservation and Recovery Act (RCRA). 1910.120(q) addresses requirements for facilities that are not RCRA TSD's, where there is the potential for an emergency incident involving hazardous substances. Cleanup operations -including corrective actions and post-emergency response cleanup --are covered by 1910.120(b) through (o). For further guidance, refer to the forthcoming directive on 29 CFR 1910.120.)

II. QUALITY CRITERIA REFERENCES

- | | |
|--------------------------|---------------|
| A. 1910.119(n) | D. 1910.165 |
| B. 1910.38(a) | E. 1910.1200 |
| C. 1910.120(a), (p), (q) | F. 1910.36(b) |

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119(n) or .38(a) (2)

1. Has an emergency action plan been established and implemented for the entire plant in accordance with the requirements of 1910.38? Does the plan address the following:

- × Escape procedures and routes?
- × Procedures for post-evacuation employee accounting?
- × Preferred means to report emergencies?
- × Duties and procedures of employees who:
 - × Remain to operate critical equipment?
 - × Perform rescue and medical duties?
 - × The names for persons or locations to contact for more action plan information?
 - × Employee alarm systems?

.38(a) (1)

2. Is the plan written if the facility has more than ten employees?

.38(a) (5)(i)

3. Is there sufficient number of persons designated and trained to assist in the safe and orderly emergency evacuation of employees?

.38(a) (5)(ii)

4. Is the plan reviewed with each employee covered by the plan: initially when the plan is developed; and whenever the employees' responsibilities or designated action under the plan change; and whenever the plan is changed?

.119(n)

5. Does the emergency action plan cover procedures for handling small releases?

.165(b-e)

6. Is an alarm system established and implemented which complies with 1910.165?

Are the alarms:

- × Distinctive for each purpose of the alarm?
- × Capable of being perceived above ambient noise and light levels by all employees in the affected portions of the workplace?
- × Distinctive and recognizable as a signal to evacuate the work area or perform actions designated under the plan?
- × Maintained in operating condition?
- × Tested appropriately and restored to normal operating condition as soon as possible after test?
- × Non-supervised systems tested not less than every two months?
- × Supervised systems tested at least annually?
- × Serviced, maintained, and tested by appropriately trained persons?
- × Unobstructed, conspicuous and readily accessible, if they are manual alarm systems?

.120(a) .120(p) .120(q)

7. Does the written emergency response plan meet the requirements of 1910.120(a), (p), and (q), if appropriate?

(See the NOTE at I., Program Summary. Clean-up operations required by a governmental body are addressed in .120(a); treatment, storage, and disposal (TSD) facilities under the Resource Conservation and Recovery Act are addressed in .120(p); and .120(q) addresses requirements for emergency response no matter where they occur, except that it does not cover employees engaged in operations at TSD facilities or hazardous waste sites.)

.120(q)

8. If employees are engaged in emergency response (except clean-up operations), does the plan address the following:

- × Coordination with outside parties?
- × Personnel roles, lines of authority, training, and communication?
- × Emergency recognition and prevention?
- × Safe distances and places of refuge?
- × Site security and control?
- × Evacuation routes and procedures?
- × Decontamination?
- × Emergency medical treatment and first aid?
- × Emergency alerting and response procedures?
- × Critique of response and followup?
- × PPE and emergency equipment?

B. On-site Conditions

.165(b-e)

1. Do observations of a representative sample of alarm systems indicate that they comply with the requirements in .165(b-e)? Are the alarms:

- × Distinctive for each purpose of the alarm?
- × Capable of being perceived above ambient noise and light levels by all employees in the affected portions of the workplace?
- × Distinctive and recognizable as a signal to evacuate the work area or perform actions designated under the plan?
- × Maintained in operating condition?

- × Tested appropriately and restored to normal operating condition as soon as possible after test?
(Be present for an alarm test if possible or review video if available.)
- × Tested no greater than every two months?
- × Serviced, maintained, and tested by appropriately trained persons?
- × Unobstructed, conspicuous and readily accessible, if they are manual alarm systems?

.36(b) (4)

2. Do observations of the evacuation routes indicate that they are not blocked, locked, or barricaded?

.36(b)(5)

3. Do observations of the evacuation routes indicate that there are readily visible signs for evacuation routes leading to safe locations?

.36(b) (6)

4. Do observations of a representative sample of the evacuation route signs during dark conditions indicate that they are adequately illuminated?

C. Interviews

120(q) (6)

1. Based on interviews with employees who have been identified as likely to discover releases or assigned other emergency response duties, are they provided training? Is the training based on the duties they are expected to perform?

.120(q) (6)(i)

2. Based on interviews with employees who are likely to discover hazardous substance releases, can they demonstrate competency in the provisions listed in the first responder awareness level:

- × Understanding what hazardous substances are and the risks associated with them in an incident?
- × Understanding potential outcomes associated with an emergency when hazardous substances are present?
- × Ability to recognize the presence of hazardous substances in an emergency?
- × Ability to identify the hazardous substances, if possible?
- × Understanding the role of the first responder awareness individual in the employer's emergency response plan, including site security and control and the U.S. Dept. of Transportation's Emergency Response Guidebook?
- × Ability to realize the need for additional resources, and make appropriate notifications to the communication center?

.120(q) (6)(ii)

3. Based on interviews with employees who will take defensive action in containing and controlling a release as part of the response, can they demonstrate the competencies for a first responder operations level:

- × Knowledge of the basic hazard and risk assessment techniques?
- × Knowledge of how to select and use proper PPE provided to them?
- × Understanding of basic hazardous materials terms?
- × Knowledge of how to perform basic containment, confinement, and control operations within the capability of their unit?
- × Knowledge of how to implement basic decontamination procedures?
- × Knowledge of relevant standard operating procedures and termination procedures for a response?

.120(q) (6) (iii)

4. Based on interviews with employees who will take offensive action in containing and controlling a release as part of the response, can they demonstrate the competencies for a hazardous materials (HAZMAT) technician:

- ×Knowledge of how to implement the employer's emergency response plan?
- ×Knowledge of the classification, identification, and verification of known and unknown materials using field survey instruments and equipment?
- ×Ability to function within an assigned role in the Incident Command System?
- ×Knowledge of how to select and use proper specialized chemical PPE provided to them?
- ×Understanding of hazard and risk assessment techniques?
- ×Ability to perform advanced control, containment, and/or confinement operations within the capability of their unit?
- ×Understanding of how to implement decontamination procedures?
- ×Understanding of termination procedures?
- ×Understanding of basic chemical and toxicological terminology and behavior?

.38(a)

5. Based on interviews with a representative number of operator and maintenance employees, do they know the emergency action plan to protect themselves in an emergency?

1910.119(o): COMPLIANCE AUDITS

I. PROGRAM SUMMARY

The intent of this paragraph is to require employers to self-evaluate the effectiveness of their PSM program by identifying deficiencies and assuring corrective actions. Minimum requirements include: audits at least every three years; maintenance of audit reports for at least the last two audits; audits conducted by at least one person knowledgeable in the process; documentation of an appropriate response to each finding; documentation that the deficiencies found have been corrected.

II. QUALITY CRITERIA REFERENCES

- A. 1910.119(o): Compliance Audits
- B. 1910.119(c): Employee Participation

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119(o)(1)

1. Has the employer certified in writing that there has been an audit of compliance with PSM at least every three years?

.119(o)(1)

2. Do the audit reports include an evaluation of all the required paragraphs of the PSM standard?

.119(o) (2)

3. Was the compliance audit conducted by at least one person who was knowledgeable in the process?

.119(o) (3)

4. Has a report of the findings been developed for each audit?

.119(o) (4)

5. Has the employer promptly determined and documented an appropriate response to each of the findings?

(4)

.119(o)

6. Does the employer document that deficiencies have been corrected?

.119(o) (5)

7. Has the employer retained the two most recent compliance audit reports?

B. On-site Conditions

.119(o) (4)

No observations are required; on-site conditions will be cited under other paragraphs.

C. Interviews

.119(o) (2)

1. Based on interviews with auditors, are they knowledgeable in processes?

.119(c) (3)

2. Based on interviews with a representative number of employees and their designated representatives, do they have access to compliance audit information?

1910.119 (p): TRADE SECRETS

I. PROGRAM SUMMARY

The intent of this paragraph is to require employers to provide all information necessary to comply with the standard to personnel developing paragraphs (d), (e), (f), (n) and (o) without regard to possible trade secrets. In addition, employees and their designated representatives shall have access to trade secret information contained within documents required to be developed by the standard.

II. QUALITY CRITERIA REFERENCES

A. 1910.119(p): Trade Secrets

B. 1910.1200: Hazard Communication

III. VERIFICATION OF PROGRAM ELEMENTS

A. Records Review

.119(p) (1)

1. Has all information necessary been provided to those persons responsible for compiling the process safety information (paragraph d), those assisting in development of the PHA (paragraph e), those responsible for developing the operating procedures (paragraph f), and those involved in incident investigations (paragraph m) and emergency planning and response (paragraph n), and compliance audits (paragraph o) been without regard to possible trade secret status of such information?

.119(p) (3)

2. Do employees and their designated representatives have access to trade secret information contained in the PHA and to other documents required to be developed by the standard, subject to the provisions set forth in 1910.1200(i)(1) through (i)(12)?

B. On-site Conditions

Not applicable.

C. Interviews

Employees involved in specific duties:

.119(p) (1)

1. Based on interviews with a representative number of employees involved in compiling the process safety information, developing PHA's, developing operating procedures, investigating incidents, planning and responding to emergencies, and auditing compliance, has all information necessary been provided to them without regard to possible trade secret status of such information?

Employees and Representatives:

.119(p) (3)

2. Based on interviews with a representative number of employees and their designated representatives, do they have access to trade secret information contained within the PHA and other documents required to be developed by the standard?

(Note that this access is subject to the provisions set forth in 1910.1200(i)(1).)