

U.S. Department of Labor

Assistant Secretary for
Occupational Safety and Health
Washington, D.C. 20210



OSHA Instruction CPL 2-2.45A

SEP 28 1992

Directorate of Compliance Programs

Subject: 29 CFR 1910.119, Process Safety Management of Highly Hazardous Chemicals--Compliance Guidelines and Enforcement Procedures

- A. Purpose. This instruction establishes uniform policies, procedures, standard clarifications, and compliance guidance for enforcement of the standard for Process Safety Management of Highly Hazardous Chemicals, 29 CFR 1910.119 ("PSM standard"), and amendments to the standard for Explosives and Blasting Agents, 29 CFR 1910.109.
- B. Scope. This instruction applies OSHA-wide.
- C. References.
1. 29 CFR 1910.119, Process Safety Management of Highly Hazardous Chemicals; Final Rule; February 24, 1992, Federal Register Vol. 57, No. 36, pp. 6356-6417.
 2. OSHA Instruction CPL 2.45B, June 15, 1989, the Field Operations Manual (FOM).
 3. OSHA Instruction STP 2.22A, CH-2, January 29, 1990, State Plan Policies and Procedures Manual.
 4. OSHA Instruction CPL 2.94, July 22, 1991, OSHA Response to Significant Events of Potentially Catastrophic Consequence.
 5. OSHA Instruction ADM 1-1.12B, December 29, 1989, Integrated Management Information System (IMIS) Forms Manual.
- D. Cancellation. This instruction cancels:
1. OSHA Instruction CPL 2-2.45, September 6, 1988, Systems Safety Evaluation of Operations with Catastrophic Potential.
 2. OSHA Notice CPL 2, March 9, 1992, Special Emphasis Program in Petrochemical Industries, Standard Industrial Classification (SIC) Codes 2821, 2869, and 2911.

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- E. Action. OSHA Regional Administrators and Area Directors shall ensure that all compliance and enforcement activities related to the PSM standard adhere to the guidelines of this instruction.
- F. Federal Program Change. This instruction describes a Federal program change which affects State programs. Each Regional Administrator shall:
1. Ensure that a copy of this change is promptly forwarded to each State designee, using a format consistent with the Plan Change Two-Way Memorandum in Appendix P of OSHA Instruction STP 2.22A, CH-3.
 2. Explain the technical content of this change to the State designees as requested.
 3. Advise the State designees that, in order to ensure uniform enforcement of the Explosives and Blasting Agents Standard and the Process Safety Management of Highly Hazardous Chemicals Standard addressed by this instruction, State implementation of the procedures in this instruction, or comparable State procedures, must be carefully coordinated with OSHA.
 4. Coordinate with the State to ensure appropriate staff training (as discussed at I.4. of this instruction), participation in the Program-Quality-Verification inspection scheduling process (as discussed at J.3.d. of this instruction), and to provide appropriate technical assistance.
 5. Ensure that State designees are asked to acknowledge receipt of this Federal program change in writing to the Regional Administrator as soon as the State's intention is known, but not later than 70 calendar days after the date of issuance (10 days for mailing and 60 days for response). This acknowledgment must include the State's intention to follow OSHA's policies and procedures described in this instruction, or a description of the State's alternative policy and/or procedure which is "at least as effective" as the Federal policy and/or procedure.
 6. Ensure that the State designees submit a plan supplement, in accordance with OSHA Instruction STP 2.22A, CH-2, as appropriate, following the established schedule that is agreed upon by the State and the

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Regional Administrator to submit non-Field Operations Manual/Technical Manual Federal Program Changes.

- a. If the State intends to follow the revised inspection procedures described in this instruction, the State must submit either a revised version of this instruction, adapted as appropriate to reference State law, regulations and administrative structure, or a cover sheet describing how references in this instruction correspond to the State's structure. The State's acknowledgment letter may fulfill the plan supplement requirement if the appropriate documentation is provided.
 - b. If the State adopts an alternative to Federal enforcement inspection procedures, the State's plan supplement must identify and provide a rationale for all substantial differences from Federal procedures in order for OSHA to judge whether a different State procedure is as effective as the comparable procedure.
7. After Regional review of the State plan supplement and resolution of any comments thereon, forward the State submission to the National Office in accordance with established procedures. The Regional Administrator shall provide a judgment on the relative effectiveness of each substantial difference in the State plan change and an overall assessment thereon with a recommendation for approval or disapproval by the Assistant Secretary.
 8. Review policies, instructions, and guidelines issued by the States to determine that this change has been communicated to State program personnel.
- G. Background. On February 24, 1992, OSHA promulgated the Final Rule for Process Safety Management of Highly Hazardous Chemicals. This standard originally became effective on May 26, 1992. An administrative stay delayed the effective date of paragraphs (f), (h), (j), and (l) until August 26, 1992. That stay has expired and the stayed provisions are now fully effective.
1. In recent years, a number of catastrophic accidents in the chemical industry have drawn attention to the safety of processes involving highly hazardous chemicals. OSHA has determined that employees have

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been and continue to be exposed in their workplaces to the hazards of releases of highly hazardous chemicals which may be toxic, reactive, flammable, or explosive.

2. The requirements of the PSM standard are intended to eliminate or mitigate the consequences of such releases. The standard emphasizes the application of management controls when addressing the risks associated with handling or working near hazardous chemicals.
3. In addition, the PSM standard has been developed in fulfillment of OSHA's obligation under the Clean Air Act Amendments (CAAA) of 1990, section 304(a). The final rule is consistent with the mandate of the CAAA.
4. It is anticipated that joint inspection activities related to the PSM standard will arise between OSHA, the Environmental Protection Agency, and the Chemical Safety and Hazard Investigation Board, which was mandated by the CAAA.

H. Enforcement Activity Related to the PSM Standard--Types of Inspections. 29 CFR 1910.119 has broad applicability to potentially hazardous processes that may exist in a wide variety of industries. Accordingly, enforcement activities related to the PSM standard--either to determine if an employer is covered by the standard or to assess the employer's compliance with it--may take place in any of the inspection types described below. The following guidelines shall apply to PSM-related compliance activity:

1. Program-Quality-Verification (PQV) Inspections. The primary enforcement model for the PSM standard shall be the PQV inspection, as described at K. and L. of this instruction. Programmed PQV inspections shall be scheduled as described at J. of this instruction.
2. Other Programmed Inspections: Screening for PSM Coverage. In all programmed safety and health inspections in general industry, a determination shall be made as to whether the establishment is covered by the PSM standard.
 - a. This determination shall follow the criteria presented at 29 CFR 1910.119(a), including appropriate reference to Appendix A of §1910.119. The determination may be made in conjunction with

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an assessment of the employer's Hazard Communication program.

b. If the establishment is found to be covered by the standard:

- (1) It shall be further determined if the establishment is included in the universe of affected establishments from which PQV inspections may be scheduled. (See J. of this instruction.)
- (2) The employer shall be provided:
 - (a) Copies of the OSHA publications "Process Safety Management," OSHA Publication 3132, which also contains the full text of §1910.119; and "Process Safety Management--Guidelines for Compliance;" and
 - (b) A letter notifying the employer that the subject establishment is covered by the PSM standard and may be inspected under the standard. The letter shall also emphasize the employer's obligation to comply with the standard. An example of such a letter is provided as Appendix F of this instruction.

c. The Area Director shall ensure proper coding of the OSHA-1 (as described at Q. and Appendix H of this instruction) to identify the establishment as either known to be covered by the PSM standard or known not to be covered by the standard.

3. Unprogrammed PSM-related Inspections. In all unprogrammed inspection activity relating to the PSM standard, a determination shall be made as to whether the establishment is covered by 29 CFR 1910.119.

- a. If a formal complaint or referral relating to the PSM standard is received regarding any workplace classified in one of the SIC codes listed at Appendix C of this instruction, the complaint or referral item(s) shall be investigated and:

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- (1) All programs required by the PSM standard shall be screened for obvious violations; and
 - (2) A CSHO referral for a PQV inspection shall be considered if major deficiencies are indicated. This determination shall be documented in the case file.
- b. Investigations of formal, PSM-related complaints and referrals in establishments in all other SIC codes shall normally be limited to the complaint item(s) only, unless violations related to the complaint or referral items are found.
4. Responses to Accidents and Catastrophes. Responses to accidents and catastrophes involving PSM shall follow the guidelines contained in Chapter VIII of the FOM and--where appropriate--in OSHA Instruction CPL 2.94, "OSHA Response to Significant Events of Potentially Catastrophic Consequence," in addition to the guidelines of this instruction. If the workplace is classified in one of the SIC codes listed at Appendix C of this instruction, a PQV inspection shall be considered; the reasons for the determination shall be documented in the case file.
5. All Other Inspections. Normally, there shall be no PSM-related activity on any inspection other than those described at H.1. through H.4., above.
- I. Inspection Resources. Appropriate levels of staff training and preparation are essential for compliance activities relating to the PSM standard. In particular, it is anticipated that PQV inspections will be highly resource-intensive; they will therefore require careful planning and coordination. The recommendations included as Appendix G of this instruction may be used as a guide for such planning.
 1. PQV Team Leaders ("Level One"). Only trained compliance safety and health officers (CSHOs) with experience in the chemical industry shall be assigned to lead a PQV inspection under this standard.
 - a. As a minimum, this training must include the OSHA Training Institute's Course 330, "Safety and Health in the Chemical Processing Industries," and Course 340, "Hazard Analysis in the Chemical Processing Industries," or equivalent training

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such as that offered by the National Institute of Standards and Technology.

NOTE: Due to a significant change in course content, completion of Course 330 prior to Fiscal Year 1991 does not meet this requirement for PQV team leaders.

- b. Team leaders must have prior experience in the chemical industry. This experience should include experience obtained from accident/explosion investigations in chemical or petrochemical plants, through previous chemical inspections involving process safety management evaluation, or through previous chemical industry employment.
2. PQV Team Members ("Level Two"). CSHOs may be assigned as PQV team members, or to conduct unprogrammed inspections in workplaces in the targeted SIC codes listed in Appendix C of this instruction, if they have 2 years of OSHA inspection experience or the equivalent and have completed Course 330, "Safety and Health in the Chemical Processing Industries" (including offerings of this course prior to Fiscal Year 1991) and Course 340, "Hazard Analysis in the Chemical Processing Industries."
 3. CSHOs With Less Training. Complaint and other unprogrammed inspections pertaining to some sections of the standard may be conducted by CSHOs who do not have the training and experience described at I.1. or I.2., above, but who are experienced in evaluating other programmatic standards such as hazard communication and lockout/tagout and in evaluating respirator programs.
 - a. The following sections of 29 CFR 1910.119 may be appropriately evaluated by such CSHOs:
 - (c) Employee participation.
 - (g) Training.
 - (h) Contractors.
 - (k) Hot work permits.
 - (m) Incident investigation.

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- (n) Emergency planning and response.
 - b. Such CSHOs shall make full utilization of Technical Support resources at the Regional Office and National Office levels in arriving at decisions regarding compliance or noncompliance.
 - c. Nevertheless, to the extent possible, Area Directors shall attempt to utilize CSHOs with experience and training in the chemical industry to perform such unprogrammed inspections.
4. State Plan States. Each State shall have one or more CSHOs trained to meet the requirements for PQV team leaders and an appropriate number of qualified team members. OSHA will provide technical assistance, as needed, through the Regional Office, Health Response Team, and the Office of Construction and Engineering.
- J. PQV Inspection Scheduling. Due to the resource-intensive nature of inspections for compliance with the PSM standard, the Agency will be able to perform only a limited number of PQV inspections (as described at K. and L. of this instruction) each year. A special targeting and scheduling system is therefore necessary to maximize the effective use of inspection resources.
- 1. Targeting. OSHA wishes to make the most effective use of its limited resources, and therefore will use the factors listed below in determining the SIC codes to be inspected. OSHA will select the SICs that have experienced the greatest number of accidents/incidents as determined from these three sources:
 - a. Published insurance industry reports of major accidents/incidents.
 - b. IMIS data, including the OSHA-170 Investigation Summary File.
 - c. EPA Accident Release Information Program (ARIP) data.
 - 2. Current Targeted SICs. A list of targeted SIC codes based on current data, as described at J.1., is included as Appendix C of this instruction. This Appendix may be updated periodically.

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3. Scheduling. PQV inspections shall be scheduled as follows:

- a. Using the list of SICs determined as described at J.1. above, the Office of Statistics shall annually create an initial list including all known establishments within each of the identified SICs for each Region. This list shall be organized by establishment, by establishment size, by corporate identity (as determined through a commercially available source), and by State.
- b. The Directorate of Compliance Programs shall forward the initial lists to the appropriate Regions.
- c. Within 30 days of receipt of the initial list, each Region shall select five candidates for a PQV inspection and shall forward the resulting list, together with documentation supporting the selections, to the Directorate of Compliance Programs. The Regions shall base their selection on such factors as:
 - (1) Number of employees at the facility.
 - (2) Age of the facility.
 - (3) Known toxicity of chemicals used in the facility's processes.
 - (4) Frequency of media reports of releases or other incidents at the facility.
 - (5) Local EPA information.
 - (6) Past OSHA history of the facility, including complaints received and/or followup inspections due.
 - (7) Information from local/municipal fire departments.

NOTE: The Regions need not make a determination on each of these factors for each establishment on their initial list; however, their selections for

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candidates shall be thoroughly documented.

- d. Beginning with Fiscal Year 1994, Regional Administrators shall provide to each State designee a copy of the establishment list within their State. Each State shall nominate one establishment for a PQV inspection or provide an explanation of why a PQV inspection should not be scheduled in their State. Regional Administrators shall include these candidates with their regional submission (i.e., in addition to the five candidates submitted by each Region) to the Directorate of Compliance Programs, together with their assessment and recommendation as to whether the State's candidate should be included in the national selection and as to the State's degree of readiness to conduct the inspection independently.
- e. Within 60 days of the receipt of the candidate lists from the Regions, the Directorate of Compliance Programs shall notify each Region of the final list of establishments from which PQV inspections are to be scheduled.
 - (1) The selections for the Regional lists shall be made by the Directorate of Compliance Programs in coordination with the Office of Field Programs. The selections shall be based on:
 - (a) Emphasis on a corporate approach, to give inspection priority to the maximum number of different corporations, rather than targeting multiple inspections in the same corporation; and
 - (b) Regional resources and inspection goals; and
 - (c) Overall Agency resources.
 - (3) Inspection goals (actual numbers) are to be set in the annual Field Operations Program Plan between Regions and the Office of Field Programs.

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- (4) The number of establishments selected may vary from Region to Region, because OSHA plans to focus more PQV inspections in Regions with higher concentrations of high-hazard industries affected by the standard.
 - (5) The selections from the States' list shall be coordinated with the Office of State Programs. Regional Administrators shall include full discussion and coordination with the affected States.
4. Deletion Criteria. An establishment shall be deleted from the list if it:
- a. Has received a substantially complete systems safety inspection or PQV inspection within the current or the preceding 5 calendar years; or
 - b. Is included in a corporate settlement agreement requiring appropriate management systems for process safety; or
 - c. Is a VPP participant; or
 - d. Is a corporate office/headquarters and is not engaged in actual production or physical research operations; or
 - e. Is not covered because of exclusions in the PSM standard; or
 - f. Has been the subject of a PSM-related inspection (complaint or referral) in the preceding year during which PSM programs were screened and a referral for a PQV inspection was not made.
- NOTE: Determination for deletion shall be made initially, to the extent possible, at the National Office level when the list is prepared; and/or subsequently, as necessary, at the Regional Office level based on local knowledge (e.g., recent inspections, Area Office screening, State Manufacturers' Guide).
5. Local Emphasis Programs. Some Regions may have relatively few establishments in the targeted SIC codes

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listed in Appendix C. Regional Administrators therefore may propose a Local Emphasis Program to direct Regional PSM inspections resources to industry types that may not be covered by the targeted SIC codes. Such Local Emphasis Programs shall be submitted to the Directorate of Compliance Programs for approval in accordance with the FOM, Chapter II.

- K. Scope of POV Inspection. Comprehensive inspections under the PSM standard shall evaluate the procedures used by the employer and the process-related contract employers to manage the hazards associated with processes using highly hazardous chemicals. Normally, these inspections will embody a three-fold approach, which for reference is termed Program-Quality-Verification (PQV).
1. First, the employer's and the contract employers' Program for complying with each of the listed elements of the PSM standard shall be evaluated in accordance with the PSM Audit Guidelines contained in Appendix A of this instruction. (See also M. of this instruction.)
 2. Second, the Quality of the employer's and the contract employers' procedures shall be compared to acceptable industry practices as described in the standard to determine compliance.
 3. Third, Verification of the employer's and the contract employers' effective implementation of the program can be made through review of written programs and records of activity, interviews with employees at different levels, and observation of site conditions. The team leader shall select one or more processes as described at L.7. of this instruction to perform the verification portion of the inspection.
- L. POV Inspection Procedures. The procedures given in the FOM, Chapter III, shall be followed except as modified in the following sections:
1. Opening Conference. Where appropriate, the facility safety and health director, Process Safety Manager, or other person capable of explaining the company's Process Safety Management Program shall be included in the opening conference.

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- a. During the opening conference, CSHOs shall familiarize themselves with the establishment's emergency response procedures and emergency alarms.
 - b. CSHOs shall also request that the management representative(s) provide them with a reasonably detailed overview of the chemical process at the facility, including block diagrams indicating chemicals and processes involved.
2. PSM Overview. Prior to beginning the walkaround inspection, the CSHOs shall request an explanation of the company's Process Safety Management Program including, at a minimum:
 - a. How the elements of the standard are implemented;
 - b. Personnel designated as responsible for implementation of the various elements of the standard; and
 - c. A description of company records used to verify compliance with the standard. (See also Appendix E of this instruction.)
3. Initial Walkaround. After this familiarization, the inspection may begin with a brief walkaround inspection of those portions of the facility within the scope of the standard. Additional walkaround activity may be necessary after selection of the process unit(s). The purpose of the initial walkaround is to:
 - a. Give CSHOs a basic overview of the facility operations;
 - b. Allow CSHOs to observe potential hazards such as pipework in risk of impact, corroded or leaking equipment, unit or control room siting, and location of relief devices; and
 - c. Solicit input from the employee representative concerning potential PSM program deficiencies.
4. Personal Protective Equipment. In addition to normal inspection protective equipment, CSHOs conducting these inspections shall be provided with flame retardant coveralls for protection from flash fires and with

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NIOSH-approved emergency escape respirators for use during any emergency conditions.

- a. CSHOs shall wear flame-retardant coveralls in all areas of the plant where there is potential for flash fires and as may be required by company policy.

NOTE: Clothing made of hazardous synthetic fabrics should not be worn underneath flame-retardant coveralls.

- b. CSHOs shall carry emergency escape respirators, when necessary, during the walkaround portion(s) of the inspection. CSHOs conducting these inspections shall have received proper training in the use of emergency escape respirators.
- c. CSHOs shall be provided with appropriate alert monitors (e.g., HCN, Cl₂) where such devices are necessary.
- d. CSHOs shall ensure that any still cameras and/or video cameras are intrinsically safe for use in the process areas being inspected.

- 5. Documentation to be Requested--General and Process-Related. At the conclusion of the opening conference, the CSHO shall request access to or copies of the documents listed at L.5.a. through L.5.m. below. Initially, to expedite the inspection process, only access to documents should be requested. During the inspection, as potential violations of the standard are observed, copies of the written documentation described below shall be requested to substantiate citations.

- a. OSHA 200 Logs for the past 3 years for both the employer and all process-related contractor employer(s).
- b. Employer's written plan of action regarding the implementation of employee participation.
- c. Written process safety information for the unit(s) selected (see L.7.), if available, such as flow diagrams, piping and instrumentation diagrams (P&ID's), and process narrative descriptions.

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NOTE: The employer is required to compile process safety information on a schedule consistent with the employer's schedule for conducting the process hazard analyses (PHA).

- d. Documented priority order and rationale for conducting process hazard analyses; copies of any process hazard analyses performed after May 25, 1987; team members; actions to promptly address findings; written schedules for actions to be completed; documentation of resolution of findings; documentation verifying communication to appropriate personnel; and 5-year revalidation of original PHA required by standard.
- e. Written operating procedures for safely conducting activities in each selected unit; annual certification that operating procedures are current and accurate; written procedures describing safe work practices for potentially hazardous operations, including (but not limited to) lockout/tagout, confined space entry, lifting equipment over process lines, capping over ended valves, opening process equipment or piping, excavation, and control over entrance into a facility of maintenance, laboratory, or other support personnel.
- f. Training records for initial and refresher training for all employees in the selected unit(s) whose duties involve operating a process; methods for determining the content of the training; methods for determining frequency of refresher training; certification of required knowledge, skills, and abilities to safely perform job for employees already involved in operating a process on May 26, 1992, who have not received initial training; and training material.
- g. Pre-startup safety review for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information; documentation of employee training.
- h. Written procedures and schedules to maintain the ongoing integrity of process equipment; the

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relevant portions of applicable manufacturers' instructions, codes, and standards; and inspection and tests performed on process equipment in the unit(s) selected.

- i. Hot work permit program and active permits issued for the unit(s) selected.
 - j. Written procedures to manage change to process chemicals, technology, equipment and procedures; and changes to facilities that affect a covered process.
 - k. Incident investigation reports for the unit(s) selected, resolutions and corrective actions.
 - l. Written emergency action plan including procedures for handling small releases and evidence of compliance with 1910.120(a), (p), and (q), where applicable.
 - m. The two most recent compliance audit reports, appropriate responses to each of the findings, and verifications that deficiencies have been corrected.
6. Documentation to be Requested--Contractor-Related. The following information relating to contractor compliance shall be requested:
- a. Documentation from Employer:
 - (1) Information relating to contract employers' safety performance and programs;
 - (2) Methods of informing contract employers of known potential hazards related to contractor's work and the process and applicable provisions of the emergency action plan;
 - (3) Safe work practices to control the entrance, presence and exit of contract employers and contract employees in covered process areas;
 - (4) Evaluation of contractor employer performance in fulfilling responsibilities required by the standard;

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- (5) Contract employee injury and illness logs related to work in process areas; and
- (6) A list of unique hazards presented by contractors' work or hazards found in the workplace that have been reported to the employer.

b. Documentation from Contract Employer:

- (1) Records showing employees receive training in and understand safe work practices related to the process on or near which they will be working to perform their jobs safely;
- (2) Known potential fire, explosion or toxic release hazards related to job, and applicable provisions of emergency action plan; and
- (3) A list of unique hazards presented by contractors' work or hazards found in the workplace that have been reported to the employer.

NOTE: The documentation described at L.5. and L.6.a. may also be required of the contract employer, depending on the scope of the contract employer's activities.

7. Selection of Process(es). The team leader shall select one or more processes within which to evaluate compliance with the standard. This selection shall be based on the factors listed below, and shall be documented in the case file:

- a. Factors observed during the walkthrough;
- b. Incident reports and other history;
- c. Company priorities for or completed process hazard analyses (PHA);
- d. Age of the process unit;
- e. Nature and quantity of chemicals involved;
- f. Employee representative input;

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- g. Current hot work, equipment replacement, or other maintenance activities; and
- h. Number of employees present.

M. Compliance Guidelines for Specific Provisions of 29 CFR 1910.119. Guidelines for assessing compliance with the provisions of the PSM standard are provided in Appendix A of this instruction.

- 1. CSHOs shall use the guidance contained in Appendix A during all enforcement activities related to the PSM standard.
- 2. Clarifications and interpretations are provided in Appendix B of this instruction. Appendix B (or a subsequent revision) shall normally be the first point of reference in interpreting 29 CFR 1910.119.

NOTE: Appendix B will be updated on an ongoing basis through page changes to this instruction, as more interpretations are developed. CSHOs must therefore take care to ensure that their reference copies are up-to-date.

N. Citations. Citations for violations of the PSM standard shall be issued in accordance with the FOM, Chapters IV and V, with the following additional directions:

- 1. Classification. The requirements of the PSM standard are intended to eliminate or mitigate the consequences of releases of highly hazardous chemicals. The provisions of the standard present closely inter-related requirements, emphasizing the application of management controls when addressing the risks associated with handling or working near hazardous chemicals.
 - a. Any violation of the PSM standard, therefore, is a condition which could result in death or serious physical harm to employees.
 - b. Accordingly, violations of the PSM standard shall normally not be classified as "other-than-serious."

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2. Use of Appendix A. Appendix A, PSM Audit Guidelines, is constructed as a series of questions relating to each of the pertinent provisions of the standard.
 - a. The questions are designed to elicit a determination of "Yes" or "No" by the CSHO as to whether compliance with the provision has been met.
 - b. A determination of "No" for any provision indicates noncompliance; thus, any "No" shall normally result in a citation for a violation of that provision.
 - c. The CSHO shall thoroughly document each such determination in the case file.
- O. Non-Mandatory Appendices to this Instruction. This instruction contains two non-mandatory appendices that are designed to provide additional compliance assistance.
 1. Appendix E, Recommended Health Care Management Program Components for Process Safety Management, is still being developed and is designated as "Reserved."
 2. Appendix G, Recommended Guidelines for PQV Inspection Preparation, is intended as an aid to Regional and Area Offices in planning resources for PQV and other PSM-related inspections.
- P. Evaluation. Each Region shall develop a preliminary evaluation of the effectiveness of this program and submit it to the Directorate of Compliance Programs no later than September 30, 1993. The report shall include, at a minimum, the following items:
 1. The utility of the PSM audit guidelines used in Appendix A.
 2. An assessment of the accuracy of targeting information.
 3. An estimate of total resources (CSHO, supervisory, administrative and legal) that were required to conduct each inspection.

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- Q. Recording in IMIS. Information about PSM-related inspections shall be recorded in IMIS following current instructions given in the IMIS manual. Refer to Appendix H of this instruction for additional guidance.



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Acting Assistant Secretary

DISTRIBUTION: National, Regional, and Area Offices
All Compliance Officers
State Designees
NIOSH Regional Program Directors
7(c)(1) Consultation Project Managers
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APPENDIX A

PSM AUDIT GUIDELINES

Purpose.

This appendix contains audit guidelines intended to assist the CSHO in investigating an employer's compliance with the PSM standard. It shall be used in conjunction with Appendix B, Clarifications and Interpretations of the PSM Standard, as the primary source of compliance guidance on 29 CFR 1910.119.

Structure.

The guidelines present a Program Summary, Quality Criteria References, and a Verification checklist for each of the PSM elements.

1. Guidelines for paragraphs **c**, **g**, **h**, **k**, **m**, and **n** are designed so that CSHOs who may not be specifically trained in chemical process plants or in the PSM standard can make a preliminary review of the required elements.
2. Guidelines for elements **d**, **e**, **f**, **i**, **j**, **l**, **o**, and **p** are oriented toward more detailed investigations.

Use of the Verification Checklist.

The verification of each program element is divided into three parts: *Records Review*, *On-Site Conditions* and *Interviews*.

1. The *Records Review* section describes the documentation of the programs as required by the PSM standard. During a preliminary inspection, the CSHO shall review the documentation for the entire PSM program to ascertain that all of the elements are developed.
2. Sections labeled *On-Site Conditions* and *Interviews* guide the CSHO in confirming that the programs are implemented. This confirmation involves *observing* conditions and procedures, and *interviewing* the operators, maintenance personnel, engineering support staff, contractors and contractor employees, as appropriate, to determine whether the implemented program matches the program outlined by the documentation.

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NOTE: Several questions in the "Interviews" sections refer to interviewing engineers. The PSM standard does not require an employer to employ engineers, and these questions should not be construed as imposing a new requirement that an employer do so. All questions in this appendix that refer to interviews of engineers shall be understood to mean "engineers, if any, or other qualified persons capable of providing the information requested."

3. The CSHO shall initially perform a representative number of observations and interviews for elements c, g, h, k, m, and n. A more detailed investigation will cover all 14 elements. During these detailed assessments, the CSHO shall review components from a representative number of processes, if multiple processes exist. To confirm implementation, the CSHO shall compare the conditions and the interview results with both the minimum requirements of the PSM standard and the program outlined by the employer's documents.

Audit Guideline Documentation.

As noted at P.2. of the body of this instruction, the Audit Guidelines are constructed as a series of questions relating to each of the pertinent provisions of the standard.

1. The questions are designed to elicit a determination of "Yes" or "No" by the CSHO as to whether compliance with the provision has been met. This shall be indicated in the column labeled Met Y/N. A "Y" or "Yes" in this column indicates the subsection meets requirements. An "N" or "No" indicates the employer does not meet the standard and an "NA" signifies that the subsection does not apply.
2. A determination of "No" for any provision indicates noncompliance; thus, any "No" shall normally result in a citation for a violation of that provision.
3. The CSHO shall thoroughly document each such determination in the case file.

The *Field Note Reference(s)* space is used to cross-reference the PSM subsection with the CSHO's field notes. Field notes need not be rewritten when using these guidelines. The CSHO may record field note page numbers, videotape frame identification, photograph identification, and other documentation that refers to the requirements of the standard's elements.

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Directorate of Compliance Programs**Basic Audit Information.**

In order to gather the information needed to audit the program, the CSHO shall answer the following questions for each element:

Who? What? When? Where? Why? and How?

1. *Who* are the officials responsible for developing and implementing each of the program elements?
2. *What* are the requirements and the contents of each program element?
3. *When* are the required actions for each element completed and when are they required to be completed?
4. *Where* have actions been implemented or changed?
5. *Why* have the implementation decisions and priorities been made as recorded in the PSM documentation?
6. *How* is the program implemented and how is the program's effectiveness evaluated and improved (monitoring performance, followup and closure of outstanding items, etc.)?

Interrelationship of Elements.

An essential part of verifying program implementation is to audit the flow of information and activities among the elements. When information in one element is changed or when action takes place in one element that affects other elements, the CSHO shall review a sample of the related elements to see if the appropriate changes and followup actions have taken place.

The following example demonstrates the interrelationship among the elements:

During a routine inspection of equipment (**Mechanical Integrity**), the maintenance worker discovers a valve that no longer meets the applicable code and must be changed. Because the type of valve is no longer made, a different type of valve must be selected and installed (**Management of Change**). The type of valve selected may mandate different steps for the operators (**Operating Procedures**) who will require training and verification in the new procedures (**Training**). The rationale for selecting the type of valve

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must be made available for review by employees and their representatives (**Employee Participation**).

When the new valve is installed by the supplier (**Contractors**), it will involve shutting down part of the process (**Pre-startup Safety Review**) as well as brazing some of the lines (**Hot Work Permit**). The employer must review the response plan (**Emergency Planning**) to ensure that procedures are adequate for the installation hazards.

Although **Management of Change** provisions cover interim changes, after the new valve is in place the **Process Safety Information** will have to be updated before the **Process Hazard Analysis** is updated or revalidated, to account for potential hazards associated with the new equipment. Also, inspection and maintenance procedures and training will need to be updated (**Mechanical Integrity**).

In summary, 11 PSM elements can be affected by changing one valve. A CSHO would check a representative number of these 11 elements to confirm that the required followup activities have been implemented for the new valve.

Three key elements shall be routinely reviewed to verify that changes have been implemented. They are:

- Operating Procedures;
- Process Hazard Analysis; and
- Training.

These elements shall be crosschecked to see if they show that the changes have been followed through to completion.

Joe Beall

Jimmy Aubrey

John Olson

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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 for 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**

1. Does a written program exist regarding employee participation?

FIELD NOTE REFERENCE(S):

.119(c)
(1)

Met
Y/N

Y

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?

FIELD NOTE REFERENCE(S):

.119(c)
(2)

Y

7

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

FIELD NOTE REFERENCE(S):

.119(c)
(3)

Y

B. On-site Conditions

Not applicable.

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C. Interviews 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? FIELD NOTE REFERENCE(S):	.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? FIELD NOTE REFERENCE(S):	.119(c) (2)	
3. Based on interviews with a representative number of employees and their representatives, have they been 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.) FIELD NOTE REFERENCE(S):	.119(c) (3)	

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Joseph H. Hegwood

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 |
| B. | 1910.1200: | Hazard Communication |

III. VERIFICATION OF PROGRAM ELEMENTS

Criteria
ReferenceMet
Y/N

A. Records Review

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

.119(d)

?

FIELD NOTE REFERENCE(S):

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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 foreseeable occur? NOTE: MSDS's meeting the requirements of 29CFR1910.1200(g) may be used to the extent they contain the information required. FIELD NOTE REFERENCE(S):	.119(d) (1) .1200 (g) 0.5s	
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.) FIELD NOTE REFERENCE(S):	.119(d) (2)	
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)? FIELD NOTE REFERENCE(S):	.119(d) (3)(i) <i>Part 1</i>	

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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.) FIELD NOTE REFERENCE(S):	.119(d) (3)(ii)	?
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.) FIELD NOTE REFERENCE(S):	.119(d) (3) (iii)	?
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.) FIELD NOTE REFERENCE(S):	.119(d)	
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.) FIELD NOTE REFERENCE(S):	.119(d) (3)(ii)	

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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)? FIELD NOTE REFERENCE(S):	.119(d) (3) (iii)	
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? FIELD NOTE REFERENCE(S):	.119(d)	
Operators: 2. Based on interviews with a representative number of operators, is MSDS information readily available to the operators who work with hazardous materials? FIELD NOTE REFERENCE(S):	.1200	
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.) FIELD NOTE REFERENCE(S):	.119(d) (3)(ii)	

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

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Veldm Messick

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 ELEMENTSCriteria
ReferenceMet
Y/N**A. Records Review**

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:

- the extent of process hazards
- number of potentially affected employees
- age of process
- operating history?

FIELD NOTE REFERENCE(S):

.119(e)
(1)

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2. Are the initial PHA's for processes covered by the PSM standard being performed as soon as possible? FIELD NOTE REFERENCE(S):	.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: • No less than 25% of the PHA's shall be completed by 5/26/94? • No less than 50% of the PHA's shall be completed by 5/26/95? • No 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.) FIELD NOTE REFERENCE(S):	.119(e) (1)	
4. Does the hazard evaluation use one or more of the following PHA methodologies: • What-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). FIELD NOTE REFERENCE(S):	.119(e) (2)	

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5. Does the PHA address the following: • The hazards of the process? FIELD NOTE REFERENCE(S): • Previous incidents with likely potential for catastrophic consequences? FIELD NOTE REFERENCE(S): • Consequences of failure of engineering and administrative controls? (For example, potential injury, maximum release of hazardous materials, property damage, etc.) FIELD NOTE REFERENCE(S):	.119(e) (3)	
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5. (Continued) Does the PHA address the following: • 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.) FIELD NOTE REFERENCE(S): • 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.) FIELD NOTE REFERENCE(S): • 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.) FIELD NOTE REFERENCE(S): • A qualitative evaluation of a range of possible safety and health effects of failure of controls on employees in the workplace? FIELD NOTE REFERENCE(S):	.119(e) (3)	
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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? FIELD NOTE REFERENCE(S):	.119(e) (4)	
7. Has a system been established to promptly address the team's findings and recommendations? FIELD NOTE REFERENCE(S): 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? FIELD NOTE REFERENCE(S): • Document actions to be taken? FIELD NOTE REFERENCE(S): • Complete actions as soon as possible? FIELD NOTE REFERENCE(S): • Develop a written schedule of when actions are to be completed? FIELD NOTE REFERENCE(S): • 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? FIELD NOTE REFERENCE(S):	.119(e) (5)	
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? FIELD NOTE REFERENCE(S):	.119(e) (6)	

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9. Are all initial PHA's, updates or revalidations, and documented resolutions of recommendations kept for the life of the process? FIELD NOTE REFERENCE(S):	.119(e) (7)	
B. On-site Conditions 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.) FIELD NOTE REFERENCE(S):	.119(e) (1)	
2. Do observations of a representative sample of process-related equipment indicate that PHA recommendations have been promptly resolved? FIELD NOTE REFERENCE(S):	.119(e) (5)	
C. Interviews 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? FIELD NOTE REFERENCE(S):	.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? FIELD NOTE REFERENCE(S):	.119(e) (1)	

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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? FIELD NOTE REFERENCE(S):	.119(e) (3)	
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? FIELD NOTE REFERENCE(S):	.119(e) (4)	
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? FIELD NOTE REFERENCE(S):	.119(e) (5)	
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? FIELD NOTE REFERENCE(S):	.119(e) (3)	
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? FIELD NOTE REFERENCE(S):	.119(e) (5)	

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.

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*John Olson - Jimmy Autrey - Joe Beall***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) | D. | 1910.1000 |
| B. | 1910.120 | E. | 1910.1200 |
| C. | 1910.147 | | |

III. VERIFICATION OF PROGRAM ELEMENTSCriteria
ReferenceMet
Y/N**A. Records Review**

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

.119(f)
(1)

FIELD NOTE REFERENCE(S):

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

.119(f)
(1)(i)

- 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?

FIELD NOTE REFERENCE(S):

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3. Do the operating procedures include operating limits that outline consequences of process deviation and steps required to correct or avoid deviations? FIELD NOTE REFERENCE(S):	.119(f) (1)(ii)	
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? FIELD NOTE REFERENCE(S):	.119(f) (1) (iii)	
5. Are safety systems and their functions included in the operating procedures? FIELD NOTE REFERENCE(S):	.119(f) (1)(iv)	
6. Are the operating instructions consistent with the process safety information? FIELD NOTE REFERENCE(S):	.119(f) (1)	
7. Are operating procedures readily accessible to employees who work in or maintain a process? FIELD NOTE REFERENCE(S):	.119(f) (2)	

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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? FIELD NOTE REFERENCE(S):	.119(f) (3)	
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? FIELD NOTE REFERENCE(S):	.119(f) (4)	
B. On-site Conditions 1. Does observation of a representative sample of processes indicate that the written operating procedures are being implemented? FIELD NOTE REFERENCE(S):	.119(f) (1)	
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? FIELD NOTE REFERENCE(S):	.119(f) (2)	
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.) FIELD NOTE REFERENCE(S):	.119(f) (3)	

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J. Autrey

Joe Reall

John Olsen

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

	Criteria Reference	Met Y/N
A. Records Review 1. For 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? FIELD NOTE REFERENCE(S):	.119(g) (1)(i)	
2. Has each employee been trained before being involved in a newly assigned process (except employees involved in operating a process prior to 5/26/92)? FIELD NOTE REFERENCE(S):	.119(g) (1)(i)	

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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? FIELD NOTE REFERENCE(S):	.119(f) (4)	
C. Interviews 1. Based on interviews with a representative number of operators, are the written operating procedures implemented for each covered process? FIELD NOTE REFERENCE(S):	.119(f) (1)	
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.) FIELD NOTE REFERENCE(S):	.119(f) (1)	
3. Based on interviews with a representative number of employees who work in or maintain a process, are the operating procedures readily accessible? FIELD NOTE REFERENCE(S):	.119(f) (2)	
4. Based on interviews with a representative number of operators and maintenance employees, do the operating procedures reflect current operating practice? FIELD NOTE REFERENCE(S):	.119(f) (3)	

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3. If initial training has not been given to 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 be invalidated by a change in duties.) FIELD NOTE REFERENCE(S):	.119(g) (1)(ii)	
4. Has each 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? FIELD NOTE REFERENCE(S):	.119(g) (1)(i)	
5. Has the employer consulted with employees involved in operating the process to determine the appropriate frequency for refresher training? Is the frequency at least once every 3 years? FIELD NOTE REFERENCE(S):	.119(g) (2)	
B. On-site Conditions Verification is not required.	.119(g) (1) or (2)	

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C. Interviews 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? FIELD NOTE REFERENCE(S):	.119(g) (1)(i)	
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? FIELD NOTE REFERENCE(S):	.119(g) (2)	

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Joseph Negwood

1910.119 (h) CONTRACTORS**I. PROGRAM SUMMARY**

The intent of this paragraph is to require employers 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.

II. QUALITY CRITERIA REFERENCES

- A. 1910.119(h)
- B. 1910.119(f)(4)
- C. 1910.119(n)

III. VERIFICATION OF PROGRAM ELEMENTSCriteria
ReferenceMet
Y/N**A. Records Review - Employer's Program**.119(h)
(1)

1. Does the program include all 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.)

FIELD NOTE REFERENCE(S):

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

.119(h)
(2)(i)

FIELD NOTE REFERENCE(S):

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3. Are the contract employers informed of the known potential fire, explosion, or toxic release hazards related to the contractor's work and the processes? FIELD NOTE REFERENCE(S):	.119(h) (2)(ii)	
4. Are contract employers informed of the applicable provisions of the emergency action plan required by .119(n)? FIELD NOTE REFERENCE(S):	.119(h) (2) (iii)	
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? FIELD NOTE REFERENCE(S):	.119(h) (2)(iv) .119(f) (4)	
6. Are contract employers 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? FIELD NOTE REFERENCE(S):	.119(h) (2)(v)	
7. Does the employer maintain a contract employee injury and illness log related to the contractor's work in process areas? FIELD NOTE REFERENCE(S):	.119(h) (2)(vi)	
Records Review - Contractor's Programs 8. Are all contractor employees trained in the work practices necessary to perform their jobs safely? FIELD NOTE REFERENCE(S):	.119(h) (3)(i)	

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9. 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? FIELD NOTE REFERENCE(S):	.119(h) (3)(ii)	
10. Is there documentation that each contract employee has received and understands the required training? FIELD NOTE REFERENCE(S):	.119(h) (3) (iii)	
11. 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? FIELD NOTE REFERENCE(S):	.119(h) (3) (iii)	
12. Are there means to assure that contract employee follow the safety rules of the facility, including safe work practices required in .119(f)(4)? (Review evidence of enforcement by the contractor.) FIELD NOTE REFERENCE(S):	.119(h) (3)(iv) .119(f) (4)	
13. 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? FIELD NOTE REFERENCE(S):	.119(h) (3)(v)	
B. On-site Conditions 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? FIELD NOTE REFERENCE(S):	.119(h) (2)(iv)	

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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.) FIELD NOTE REFERENCE(S):	.119(h) (3)(iv)	
C. Interviews 1. 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? FIELD NOTE REFERENCE(S):	.119(h) (2)(ii)	
2. Based on interviews with contractor employers, have they been informed of the applicable provisions of the employer's emergency action plan? FIELD NOTE REFERENCE(S):	.119(h) (2) (iii)	
3. Based on interviews with contractor employers and employees, have work practices to control their entrance, presence, and exit of covered process areas been implemented? FIELD NOTE REFERENCE(S):	.119(h) (2)(iv)	
4. Based on interviews with the contractor employer, has the employer evaluated the contractor's performance in fulfilling the obligations required in .119(h)(3)? FIELD NOTE REFERENCE(S):	.119(h) (2)(v)	
5. 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? FIELD NOTE REFERENCE(S):	.119(h) (3)(ii)	

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6. 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.) FIELD NOTE REFERENCE(S):	.119(h) (3)(ii)	
7. Based on interviews with a representative number of contractor employees, has the contract 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.) FIELD NOTE REFERENCE(S):	.119(h) (3)(iv)	

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

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*Jimmy Aubrey***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 (1), 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(1): Management of Change

III. VERIFICATION OF PROGRAM ELEMENTS**A. Records Review**

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?

FIELD NOTE REFERENCE(S):

.119(i)
(1)

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?

FIELD NOTE REFERENCE(S):

- Safety, operating, maintenance, and emergency procedures are in place and adequate?

FIELD NOTE REFERENCE(S):

.119(i)
(2)

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2. (Continued) Do pre-startup safety reviews confirm that prior to the introduction of highly hazardous chemicals to a process: • For new facilities, a PHA has been performed and recommendations resolved or implemented before startup? FIELD NOTE REFERENCE(S): • Modified facilities meet requirements of paragraph (1)? FIELD NOTE REFERENCE(S): • Training of each employee involved in operating the process has been completed? FIELD NOTE REFERENCE(S):	.119(i) (2)	
On-site Conditions 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? FIELD NOTE REFERENCE(S):	.119(i) (2)	
C. Interviews [See NOTE, p. A-2.] 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? FIELD NOTE REFERENCE(S):	.119(i) 2(i)	
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? FIELD NOTE REFERENCE(S):	.119(i) 2(ii)	

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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? FIELD NOTE REFERENCE(S):	.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 (1), Management of Change prior to introducing a highly hazardous chemical? FIELD NOTE REFERENCE(S):	.119(i) 2(iii)	
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? FIELD NOTE REFERENCE(S):	.119(i) 2(iv)	

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Directorate of Compliance Programs

Jimmy Aubrey

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 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 ELEMENTSCriteria
ReferenceMet
Y/N**A. Records Review**

1. Does the written mechanical integrity program include?

- Pressure vessels and storage tanks
- Piping systems and components such as valves
- Relief and vent systems and devices
- Emergency shutdown systems
- Controls (including monitoring devices and sensors, alarms and interlocks)
- Pumps

.119(j)
(1)

FIELD NOTE REFERENCE(S):

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)
(2)

FIELD NOTE REFERENCE(S):

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3. Has training been provided to each 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.) FIELD NOTE REFERENCE(S):	.119(j) (3)	
4. Are inspections and tests performed on each item of process equipment included in the program? FIELD NOTE REFERENCE(S):	.119(j) (4)(i)	
5. Do inspection and testing procedures follow good engineering practices? FIELD NOTE REFERENCE(S):	.119(j) (4)(ii)	
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? FIELD NOTE REFERENCE(S):	.119(j) (4) (iii)	
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? FIELD NOTE REFERENCE(S):	.119(j) (4)(iv)	

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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? FIELD NOTE REFERENCE(S):	.119(j) (5)	
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? FIELD NOTE REFERENCE(S):	.119(j) (6)(i)	
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.) FIELD NOTE REFERENCE(S):	.119(j) (6)(ii)	
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.) FIELD NOTE REFERENCE(S):	.119(j) (6) (iii)	
B. On-site Conditions		
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.) FIELD NOTE REFERENCE(S):	.119(j) (5)	
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? FIELD NOTE REFERENCE(S):	.119(j) (6)(i)	

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4. Have the hot work permits been kept on file until the hot work operations were complete? FIELD NOTE REFERENCE(S):	.119(k) (2)	
5. Have the hot work permits identified openings, cracks and holes where sparks may drop to combustible materials below? FIELD NOTE REFERENCE(S):	.252(a) (2)(i)	
6. Have the hot work permits described the fire extinguishers required to handle any emergencies? FIELD NOTE REFERENCE(S):	.252(a) (2)(ii)	
7. Have the hot work permits assigned fire watchers whenever welding is performed in locations where other than a minor fire might develop? FIELD NOTE REFERENCE(S):	.252(a) (2) (iii)	
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? FIELD NOTE REFERENCE(S):	.252(a) (2)(iv) & .252(a) (2) (xiii) (A)	
9. Have the hot work permits described precautions associated with combustible materials on floors or floors, walls, partitions, ceilings or roofs of combustible construction? FIELD NOTE REFERENCE(S):	.252(a) (2)(v) & .252(a) (2)(ix)	
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? FIELD NOTE REFERENCE(S):	.252(a) (2)(vi)	

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11. Have the hot work permits required relocation of combustibles where practicable and covering with flameproofed covers where not practicable? FIELD NOTE REFERENCE(S):	.252(a) (2) (vii)	
12. Have hot work permits identified for shutdown any ducts or conveyors systems that may convey sparks to distant combustibles? FIELD NOTE REFERENCE(S):	.252(a) (2) (viii)	
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? FIELD NOTE REFERENCE(S):	.252(a) (2)(x) & .252(a) (2) (xii)	
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? FIELD NOTE REFERENCE(S):	.252(a) (2)(xi)	
15. Has management established areas and procedures for safe welding and cutting based on fire potential? FIELD NOTE REFERENCE(S):	.252(a) (2) (xiii)	
16. Has management designated the "individual" responsible for authorizing cutting and welding operations in process areas? FIELD NOTE REFERENCE(S):	.252(a) (2) (xiii) (B)	
17. Has management ensured that welders, cutters and supervisors are trained in the safe operation of their equipment? FIELD NOTE REFERENCE(S):	.252(a) (2) (xiii) (C)	

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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? FIELD NOTE REFERENCE(S):	.252(a) (2)(vi)	
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? FIELD NOTE REFERENCE(S):	.252(a) (2) (vii)	
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? FIELD NOTE REFERENCE(S):	.252(a) (2) (viii)	
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? FIELD NOTE REFERENCE(S):	.252(a) (2)(x) & .252(a) (2) (xii)	
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? FIELD NOTE REFERENCE(S):	.252(a) (2)(xi)	

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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? FIELD NOTE REFERENCE(S):	.252(a) (2) (xiii)	
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? FIELD NOTE REFERENCE(S):	.252(a) (2) (xiii) (B)	
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? FIELD NOTE REFERENCE(S):	.252(a) (2) (xiii) (C)	
16. Based on interviews with contractors and contractor employees, has management advised outside contractors working on the site about all hot work permitting programs? FIELD NOTE REFERENCE(S):	.252(a) (2) (xiii) (D)	
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. FIELD NOTE REFERENCE(S):	.252(a) (2) (xiv) (A)(B) & (C)	

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*Jimmy Autrey***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 (1): Management of Change

III. VERIFICATION OF PROGRAM ELEMENTS

Criteria
Reference

Met
Y/N

A. Records Review

.119(1)
(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.)

FIELD NOTE REFERENCE(S):

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

.119(1)
(2)(i)

FIELD NOTE REFERENCE(S):

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3. Do the procedures assure that the impact of the change on safety and health is addressed prior to any change? FIELD NOTE REFERENCE(S):	.119(1) (2)(ii)	
4. Do the procedures assure that modifications to operating procedures is addressed prior to any change? FIELD NOTE REFERENCE(S):	.119(1) (2) (iii)	
5. Do the procedures assure that the necessary time period for the change is addressed prior to any change? FIELD NOTE REFERENCE(S):	.119(1) (2)(iv)	
6. Do the procedures assure that the authorization requirements for the proposed change are addressed prior to any change? FIELD NOTE REFERENCE(S):	.119(1) (2)(v)	
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? FIELD NOTE REFERENCE(S):	.119(1) (3)	
8. Is the process safety information required by paragraph (d) updated if changed? FIELD NOTE REFERENCE(S):	.119(1) (4)	
9. Are the operating procedures or practices required by paragraph (f) updated if changed? FIELD NOTE REFERENCE(S):	.119(1) (5)	

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B. On-site Conditions 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.) FIELD NOTE REFERENCE(S):	.119(1) (1)	
C. Interviews Operators, Maintenance, and Contractor Employees: 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? FIELD NOTE REFERENCE(S):	.119(1) (1)	
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? FIELD NOTE REFERENCE(S):	.119(1) (3)	

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

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 Directorate of Compliance Programs

Chris Markerson

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) Date of incident 2) Date investigation began 3) Description of incident 4) Factors that contributed to the incident 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

Criteria Reference

Met
Y/N

A. Records Review

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?

FIELD NOTE REFERENCE(S):

.119(m)
(1)

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

FIELD NOTE REFERENCE(S):

.119(m)
(2)

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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? FIELD NOTE REFERENCE(S):	.119(m) (3)	
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? FIELD NOTE REFERENCE(S):	.119(m) (4)	
5. Has a system been established to promptly address and resolve the incident investigation report findings and recommendations? FIELD NOTE REFERENCE(S):	.119(m) (5)	
6. Have resolutions and corrective actions from the incident investigation reports been documented? FIELD NOTE REFERENCE(S):	.119(m) (5)	
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? FIELD NOTE REFERENCE(S):	.119(m) (6)	
8. Are incident investigation reports retained for five years? FIELD NOTE REFERENCE(S):	.119(m) (7)	

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B. On-site Conditions 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.) FIELD NOTE REFERENCE(S):	.119(m) (5)	
C. Interviews 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? FIELD NOTE REFERENCE(S):	.119(m) (1)	
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? FIELD NOTE REFERENCE(S):	.119(m) (3)	
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? FIELD NOTE REFERENCE(S):	.119(m) (6)	

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

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Directorate of Compliance Programs

Chris Markerson

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

Criteria
ReferenceMet
Y/N

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A. Records Review 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? FIELD NOTE REFERENCE(S):	.119(n) or .38(a) (2)	
2. Is the plan written if the facility has more than ten employees? FIELD NOTE REFERENCE(S):	.38(a) (1)	
3. Is there sufficient number of persons designated and trained to assist in the safe and orderly emergency evacuation of employees? FIELD NOTE REFERENCE(S):	.38(a) (5)(i)	
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? FIELD NOTE REFERENCE(S):	.38(a) (5)(ii)	
5. Does the emergency action plan cover procedures for handling small releases? FIELD NOTE REFERENCE(S):	.119(n)	

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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? FIELD NOTE REFERENCES:	.165 (b-e)	
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.) FIELD NOTE REFERENCES:	.120(a) .120(p) .120(q)	

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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? FIELD NOTE REFERENCES:	.120(q)	
✓ B. On-site Conditions 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? FIELD NOTE REFERENCES:	.165 (b-e)	
2. Do observations of the evacuation routes indicate that they are not blocked, locked, or barricaded? FIELD NOTE REFERENCES:	.36(b) (4)	

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3. Do observations of the evacuation routes indicate that there are readily visible signs for evacuation routes leading to safe locations? FIELD NOTE REFERENCE(S):	.36(b) (5)	
4. Do observations of a representative sample of the evacuation route signs during dark conditions indicate that they are adequately illuminated? FIELD NOTE REFERENCE(S):	.36(b) (6)	
C. Interviews 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? FIELD NOTE REFERENCE(S):	.120(q) (6)	
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? FIELD NOTE REFERENCE(S):	.120(q) (6)(i)	

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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? FIELD NOTE REFERENCE(S):	.120(q) (6)(ii)	
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? FIELD NOTE REFERENCE(S):	.120(q) (6) (iii)	
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? FIELD NOTE REFERENCE(S):	.38(a)	

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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

	Criteria Reference	Met Y/N
A. Records Review 1. Has the employer certified in writing that there has been an audit of compliance with PSM at least every three years? FIELD NOTE REFERENCE(S):	.119(o) (1)	
2. Do the audit reports include an evaluation of all the required paragraphs of the PSM standard? FIELD NOTE REFERENCE(S):	.119(o) (1)	
3. Was the compliance audit conducted by at least one person who was knowledgeable in the process? FIELD NOTE REFERENCE(S):	.119(o) (2)	
4. Has a report of the findings been developed for each audit? FIELD NOTE REFERENCE(S):	.119(o) (3)	

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5. Has the employer promptly determined and documented an appropriate response to each of the findings? FIELD NOTE REFERENCE(S):	.119(o) (4)	
6. Does the employer document that deficiencies have been corrected? FIELD NOTE REFERENCE(S):	.119(o) (4)	
7. Has the employer retained the two most recent compliance audit reports? FIELD NOTE REFERENCE(S):	.119(o) (5)	
B. On-site Conditions No observations are required; on-site conditions will be cited under other paragraphs.	.119(o) (4)	
C. Interviews 1. Based on interviews with auditors, are they knowledgeable in processes? FIELD NOTE REFERENCE(S):	.119(o) (2)	
2. Based on interviews with a representative number of employees and their designated representatives, do they have access to compliance audit information? FIELD NOTE REFERENCE(S):	.119(c) (3)	

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*Steve Vincent***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 ELEMENTSCriteria
ReferenceMet
Y/N**A. Records Review**

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?

FIELD NOTE REFERENCE(S):

.119(p)
(1)

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)?

FIELD NOTE REFERENCE(S):

.119(p)
(3)**B. On-site Conditions**

Not applicable.

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C. Interviews Employees involved in specific duties: 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? FIELD NOTE REFERENCE(S):	.119(p) (1)	
Employees and Representatives: 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).) FIELD NOTE REFERENCE(S):	.119(p) (3)	

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Appendix B

Clarifications and Interpretations of the PSM Standard

The guidance contained in this appendix is provided for compliance assistance. It shall be followed in interpreting the PSM standard for compliance purposes. Unless otherwise noted, all paragraph citations refer to 29 CFR 1910.119.

Where possible, clarifications and interpretations have been presented in a question-and-answer format.

NOTE: OSHA plans to include additional clarifications and interpretations in this appendix through future page changes to this instruction.

(a) Application

(a) Registration

Do covered establishments have to register with OSHA?

No. There is no requirement that establishments covered by the standard register with or otherwise notify OSHA.

(a) Explosives--fireworks manufacture

How does the PSM standard apply to pyrotechnics (fireworks) and explosives?

The PSM standard amended the scope of 29 CFR 1910.109, Explosives and blasting agents, by revising paragraph (k), which requires that the manufacturer of explosives and pyrotechnics comply with 29 CFR 1910.119. As defined at 1910.109(a)(10), pyrotechnics are commonly referred to as fireworks. Employers who manufacture explosives and fireworks must comply with both 29 CFR 1910.109 and 1910.119.

The applicability of 29 CFR 1910.109 to employers who manufacture fireworks is delineated in OSHA Instruction

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CPL 2.73, Fireworks Manufacturers: Compliance Pol. accordance with that directive, a fireworks plant can be cited for violation of 29 CFR 1910.109 with re. to certain National Fire Protection Association (NFPA) standards in NFPA 1124, Code for the Manufacture, Transportation and Storage of Fireworks.

What is the role of the Bureau of Alcohol, Tobacco and Firearms (BATF) vis-a-vis the PSM standard and fireworks manufacture?

By 27 CFR 55 Subpart K, BATF regulates the storage, including minimum distances, of explosive materials including fireworks in the workplace. As such, BATF limits the amount of special fireworks, pyrotechnic composition, and explosive materials used to assemble fireworks in processing building to no more than 500 pounds. Also, the maximum quantity of flash powder permitted by BATF in any fireworks process building is 10 pounds. These BATF limitations should not be confused with the applicability of the PSM standard to any amount of fireworks being manufactured.

(a) Laboratories

Does the PSM standard apply to laboratory and research operations?

A laboratory or research operation involving at least the threshold quantity of one or more highly hazardous chemicals is subject to the PSM standard.

(a) Flammable liquids

Are processes involving flammable liquids (e.g., ethyl alcohol) covered by the standard?

Processes involving flammable liquids (e.g., in a distillation process) in quantities at or above 10,000 lbs. are covered. Quantities of flammable liquids in storage are considered a part of the process if the storage tanks are interconnected with the process, or if they are sufficiently near the process that an explosion, fire, or release could reasonably involve the storage area combined with the process in quantities sufficient to meet the threshold amount of 10,000 lbs.

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Flammable liquids that are stored on a tank farm (e.g., a wholesale gasoline regional tank farm) where only transferring and storage are done are not covered by the PSM standard. They are, however, covered under 1910.106.

(a)(1)(ii)(A) Tote tanks

350-gallon tote tanks containing flammable liquids are used at a facility to refuel vehicles. Are they covered by the standard?

No. 1910.119(a)(1)(ii)(a) exempts hydrocarbon fuels used solely for workplace consumption as a fuel (e.g., gasoline for vehicle refueling) if such fuels are not part of a process containing another highly hazardous chemical covered by the standard. They are, however, covered under 1910.106.

(a)(2)(i) Retail facilities

What is the definition of "retail facilities" that are exempted from coverage by the PSM standard?

With respect to enforcement of the PSM standard, a retail facility means an establishment that would otherwise be subject to the PSM standard at which more than half of the income is obtained from direct sales to end users.

(a)(2)(iii) Meaning of "facility"

Can a facility contain more than one process?

A facility can include multiple processes. If multiple processes are interconnected, they may be considered a single process for purposes of the standard.

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(b) Definitions

(b) "Process"

What are "aggregate threshold quantities"?

In accordance with the second sentence of the definition of "process," quantities of a particular hazardous chemical contained in vessels that are interconnected--and in unconnected vessels that may be adversely affected due to an incident at a nearby process--may be combined to determine whether the threshold level of a hazardous chemical has been reached. If the threshold level is exceeded by the combination of the amount in separate tanks and interconnected vessels, then all of these may be considered one process.

(b) "Hot work"

"Spark-producing operations" include operations which use flame- or spark-producing equipment--such as grinders, welding, burning, or brazing--that are capable of igniting flammable vapors or gases.

(c) Employee participation

(c)(2) Consultation

What does consult mean? Can the employer simply inform the employees?

The intent of consult is to exchange information, solicit input and participation from the employees and their representatives. It requires more than simply informing employees.

The employer needs to consult with employees and employee representatives and develop information concerning knowledge and expertise of individual employees in various processes and aspects of the facility in order to ensure substantive input by employees and their representatives in developing

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the written action plan, process hazard analyses, and access to information required under the standard.

The standard requires employers to consult with "employees and their representatives." Is the term broad enough to include a representative of the international union? A consultant designated by the union local or international?

The standard requires consultation with "employees and their representatives". The term "employee representative" is intended to mean union representative where a union exists, or an employee-designated representative in the absence of a union. The term is to be construed broadly, and may include the local union, the international union, or an individual designated by these parties, such as the safety and health committee representative at the site or a non-employee consultant. In the absence of a union, employees have a right under the standard to designate a representative to participate in the consultation process.

(c) (3) Access

What does "access" mean? Does this mean simply make it available at a central location? Does the employer have to make copies for employees if requested?

The intent of **access** under this standard is for the information to be made available for employees and their representatives in a reasonable manner. Reasonable access may require providing copies or loaning documents. The trade secret provision of the standard permits the employer to require confidentiality agreements before providing the information.

(d) Process safety information

(d) Retention of information

How long must the employer maintain process safety information?

In order to demonstrate compliance with this paragraph, and to meet the purpose of the standard, the process safety information is to be kept for the lifetime of the process, and updated whenever changes other than "replacement in kind" are made.

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(e) Process hazard analysis

(e)(1) PHA priority

What rationale must employers use to determine the priority for conducting the process hazard analyses? May the rationale include age, history, extent of employee exposure, etc.?

The appropriate priority for conducting PHA's is to be determined by using all of the criteria identified in this paragraph, e.g., extent of the process hazards (catastrophic potential), age of the process, number of potentially exposed employees, and operating history. Other appropriate factors may also be considered in establishing the priority. The documentation required by this paragraph shall demonstrate the underlying rationale for the prioritization.

(e)(5) Timeliness

Employers must "promptly" address the problems identified in the PHA in a "timely manner," and complete actions "as soon as possible." What time frame did OSHA intend here?

The standard's intent is for the employer to take corrective action as soon as possible. As soon as possible means that the employer shall proceed with all due speed, considering the complexity of the recommendation and the difficulty of implementation. OSHA expects employers to develop a schedule for completion of corrective actions and to document the basis for the amount of time needed.

(e)(7) Retention

How long must the process hazard analyses, updates, and revalidations be retained?

For the life of the process.

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(f)(1)(iii)(c) "Control measures to be taken if physical contact or airborne exposure occurs"

Does this mean first aid, or industrial hygiene services?

It primarily means first aid procedures or emergency medical attention, which should be consistent with the information on the material safety data sheet.

(g) Training

(g)(3) Training documentation

This paragraph requires the employer to make sure that operators "understand" the training provided to them under this section. Is some method of testing required?

There must be some positive means taken by the employer to determine if employees have understood their training and are capable of adhering to the current operating procedures of the process. This could include the administration of a written test, although the standard does not require that a formal written test be used. Other means of ascertaining comprehension of the training, such as on-the-job demonstrations, etc., are acceptable, as long as they are adequately documented.

(j) Mechanical integrity

(j)(2) Written procedures

Do these written procedures need to be specific to each vessel, each type of vessel, or each group of equipment types listed?

The procedures need to be specific to the type of vessel or equipment. Identical or very similar vessels and items of equipment in similar service need not have individualized maintenance procedures. Each procedure must clearly identify the equipment to which it applies.

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(j)(6)(ii) Quality assurance

If an installation is being done by contractors, does this require the employer to implement a quality assurance program to monitor the activities of these contractors?

The employer is responsible for ensuring that equipment is installed consistent with design specifications and manufacturer's instructions. This may require the employer to be involved in the review, inspection, certification, and quality assurance of work performed by contractors.

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Targeted for PQV Inspections**

The following SIC codes are designated as targeted for possible PQV inspections, in accordance with the criteria at J.1. of this instruction:

- 2812 Alkalies and Chlorine
- 2819 Industrial Inorganic Chemicals, Not Elsewhere Classified
- 2821 Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers
- 2865 Cyclic Organic Crudes and Intermediates, and Organic Dyes and Pigments
- 2869 Industrial Organic Chemicals, Not Elsewhere Classified
- 2873 Nitrogenous Fertilizers
- 2892 Explosives [chemical plants making explosives]
- 2911 Petroleum Refining

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Appendix D**References for Compliance with the PSM Standard**

1. OSHA Instruction CPL 2.45B, June 15, 1989, the Revised Field Operations Manual (FOM).
2. OSHA Instruction STP 2.22A, CH-2, January 29, 1990, State Plan Policies and Procedures Manual.
3. OSHA Instruction ADM 1-1.12B, Dec. 29, 1989, Integrated Management Information System (IMIS) Forms Manual, Chapter V.
4. OSHA Instruction CPL 2-2.45, Sep. 6, 1988, Systems Safety Evaluation of Operations with Catastrophic Potential.
5. "Safety and Health Program Management Guidelines," 1989; U.S. Department of Labor, Occupational Safety and Health Administration.
6. "Safety and Health Guide for the Chemical Industry," 1986, (OSHA 3091); US.DOL, OSHA.
7. "Review of Emergency Systems," June 1988; U.S.E.P.A., Office of Solid Waste and Emergency Response, Washington, DC 20480.
8. "Guidelines for Hazard Evaluation Procedures," Center for Chemical Process Safety of the American Institute of Chemical Engineers; 345 East 47th Street, New York, NY 10017.
9. "Plant Guidelines for Technical Management of Chemical Process Safety," Center for Chemical Process Safety (CCPS) of The American Institute of Chemical Engineers (AIChE).
10. "Guidelines for Safe Storage and Handling of High Toxic Hazard Materials," AIChE, CCPS.
11. "Guidelines for Vapor Release Mitigation," AIChE, CCPS.
12. "Process Safety Management (Control of Acute Hazards)," Chemical Manufacturers Association (CMA).
13. "Evaluating Process Safety in the Chemical Industry," Chemical Manufacturers Association; 2501 M Street NW, Washington, DC 20037.

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14. "Safe Warehousing of Chemicals," Chemical Manufacturers Association.
15. "A Managers Guide to Reducing Human Errors Improving Human Performance in the Chemical Industry," Chemical Manufacturers Association.
16. "Improving Owner and Contractor Safety Performance," API Recommended Practice 2220.
17. "Management of Process Hazards," American Petroleum Institute (API) Recommended Practice 750, First Edition, January 1990; 1220 L Street NW, Washington, DC 20005.
18. "Sizing, Selection, and Installation of Pressure Relieving Devices," Part 1, July 1990, API RP 520.
19. "Guide for Pressure relieving and Depressuring Systems," Nov. 1990, API RP 521.
20. "Avoiding Environmental Cracking in Amine Units," Aug. 1990, API RP 945.
21. "Pressure Vessel Inspection Code: Inspection, Rating, Repair, and Alteration," June 1989, API STD 510.
22. "Inspection of Piping, Tubing, Valves, and Fittings," API RP 574.
23. "Prevention of Brittle Fracture of Pressure Vessels," API RP 920.
24. "Accident Investigation * * * A New Approach," 1983, National Safety Council; 444 North Michigan Avenue, Chicago, IL 60611-3991.
25. "Fire & Explosion Index Hazard Classification Guide," 6th Edition, May 1987, Dow Chemical Company; Midland, Michigan 48674.
26. "Chemical Exposure Index," May 1988, Dow Chemical Co.
27. "Pressure Vessels, Section VIII," The American Society of Mechanical Engineers (ASME).
28. "Chemical Plant and Petroleum Refinery Piping," ASME B31.3.

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29. "Personnel Qualification and Certification in Nondestructive Testing," American Society of Nondestructive Testing, Recommended Practice No. SNT-TC-1A.
30. "Prevention of Furnace Explosions/Implosions in Multiple Burner Boiler Furnaces," National Fire Protection Association, NFPA 85C.
31. "Purged and Pressurized Enclosures for Electrical Equipment," NFPA 496.
32. "Spacing of Facilities in Outdoor Chemical Plants," Factory Mutual Loss Prevention Data Sheet, 7-44.
33. "Chemical Process Control and Control Rooms," Factory Mutual Loss Prevention Data Sheet, 7-45.
34. "National Board Inspection Code, A Manual for Boiler and Pressure Vessel Inspectors," The National Board of Boiler and Pressure Vessel Inspectors, 1992.
35. Gideon, James A., and Thomas W. Carmody, "Process Safety Management: Resources from the American Institute of Chemical Engineers for Use by Industrial Hygienists," American Industrial Hygiene Association Journal (53), June 1992.

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Appendix E

**Recommended Health Care Management Program Components
For Process Safety Management
(Nonmandatory Guidance)**

[RESERVED]

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Appendix F**SAMPLE LETTER TO BE PROVIDED TO EMPLOYER
FOLLOWING SCREENING FOR PSM COVERAGE**

Dear Employer:

The Occupational Safety and Health Administration's (OSHA) evaluation of your workplace and the information you have provided indicate that your establishment is covered by OSHA's standard for Process Safety Management of Highly Hazardous Chemicals, 29 CFR 1910.119.

As you may know, the requirements of this standard are intended to protect employees by preventing or minimizing the consequences of accidents involving highly hazardous chemicals. OSHA believes that compliance with the standard is important for ensuring worker protection.

Accompanying this letter are copies of the following publications:

(1) "Process Safety Management," OSHA 3132, which provides information on the standard and its requirements, and

(2) "Process Safety Management--Guidelines for Compliance," OSHA 3133.

These guidelines are not a substitute for the standard itself, which is reprinted in the "Process Safety Management" booklet.

Your workplace will be included in an overall listing of all establishments known to be covered by the standard. OSHA may schedule an inspection of your establishment in the future to evaluate your compliance with the standard.

This standard is relatively new, and OSHA realizes that affected employers may have many questions. After reading the materials provided, please feel free to direct any questions to [Area Office; telephone number].

Sincerely,

Area Director

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Appendix G

Recommended Guidelines for PQV Inspection Preparation (Nonmandatory)

The following guidelines are suggested as background and preparation for a PQV inspection.

AREA OFFICE COORDINATION

Coordination within the Area Office is absolutely essential in the orderly conduct of a PQV inspection. The Area Director and all those involved in a PQV inspection must commit the resources with the understanding that the project is long-term, possibly several weeks or months. It is imperative that team members complete all outstanding assignments prior to the PQV inspection. Equally important, team participants should not be directed or "asked" to do assignments while they are engaged in the PQV inspection. An obvious exception would be court hearings, over which the Area Office has little control.

The Area Director should designate a contact person in the Area Office to coordinate and oversee all aspects of the inspection. The contact person should be a supervisor, safety or industrial hygiene (IH), who is familiar with the PQV concept. In addition to providing Area Office coordination, the contact person would review the entire case file/report. The team leader would communicate at least weekly with the contact supervisor, who would then brief the Area Director as appropriate. The contact supervisor would advise the supervisor(s) of team members about the conduct and performance of the individuals concerned. This is especially important so that the team members get a fair appraisal from their supervisors who would not or could not rate them on their PQV performance because they had no knowledge as to what was going on for weeks or months.

INSPECTION TEAM COMPOSITION

By design, a PQV inspection is a large and complex undertaking, to be accomplished by a select, well-trained team. All members of the team must be experienced journey or senior level compliance officers who are familiar with the chemical industry and have taken the appropriate OSHA training. Newer compliance officers can be utilized in the inspections, but not as a substitute for regular team members.

The team should consist of two safety compliance officers/engineers, two industrial hygiene compliance officers, an administrative support person and a construction specialist. The team leader could be from either discipline in the team, but preferably a safety specialist, due to the fact that most of the critical PSM and construction related hazards reside in the area of safety.

The team leader should be a GS-12 Senior Compliance Officer with experience in large team inspections. He or she should have excellent organizational and communication skills, both oral and written. It would also be of benefit that the team leader be knowledgeable in word processing and data base management computer operations. Since the team leader will be the focal point during the conduct of the inspection, that person should also have demonstrated leadership abilities. The entire team, the company, employees/unions and other OSHA personnel will look to the team leader for direction and answers to the many questions that will arise during the course of the inspection.

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The team leader is responsible for the overall conduct of the inspection including planning, onsite activities and report preparation. The leader would assign the various inspection areas to team members in accordance with their expertise and abilities, and determine what, if any, special expertise is needed. Additional responsibilities include:

1. Keeping the Area Office contact apprised of activities;
2. Providing and tracking requests for documents;
3. Resolving problems with the company;
4. Ensuring that the report addresses all questions in the directive.

An administrative support person would greatly increase the overall efficiency of the inspection. This position would be ideal for an accommodated compliance officer with some computer skills and organizational abilities. The support person would answer directly to the team leader and would be responsible for organizing, labeling and filing the many documents that will become part of the case file. An accommodated CSHO could also review the documents and document requests to assure the request was properly fulfilled. In addition, an accommodated CSHO could assist the inspecting team members with the many interviews that will be conducted. The support person would also be responsible for the inspection supplies and equipment.

Safety and IH team members are responsible for carrying out the PQV inspection activities under the direction of the team leader. They must keep the team leader apprised of their activities and potential problems when they arise. The construction specialist would work for the most part independently of the rest of the team, under the general direction of the team leader. Some crossover of inspection areas is to be expected, as many of the contractors and company responsibilities overlap.

PRE-INSPECTION PREPARATION

Effective planning and preparation is essential to the efficient implementation and successful completion of any large inspection, especially a PQV. Exhibit 1 provides an outline that can be used as a guide to plan and prepare for a PQV inspection. Establishment histories can be obtained and reviewed well in advance of the target date for the inspection. The inspection strategy and scheduling should be done after the team has been selected. A pre-inspection meeting with all members and the Area Office contact person should be held prior to entry.

The case file begins in the planning and preparation stage. Any documents received, such as micro to host reports, citations and PSM-related findings (including PetroSEP) in other regions must be logged and identified to allow for easy retrieval. An activity log/diary should be started to record all pertinent actions taken. A computer data base management program is recommended to keep track of the document requests and to provide a ready index of the documents that have been obtained. With this type of system it would be easy to search for pertinent documents by using the OSHA identification number, topic of document, company identification number, date of request, etc., and to ensure that various members of the team do not duplicate requests for documents.

The team should develop a weekly schedule of activities, taking into account travel days, holidays, start time, stop time, company briefings and internal briefings. Time should be allotted during the inspection week to complete necessary paperwork and documentation and tie up loose ends.

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DOCUMENTS

PQV inspections will require compliance officers to review numerous company documents. Many of these documents will become part of the case file as documentation for potential citations or for documentation of the required PSM elements. It is imperative that these documents be organized and identified so that they may be readily referenced and reviewed. It is highly recommended that all requests for copies of company documents be in writing. A standard document request format should be established and should contain at least the following information:

1. Who is the requester
2. To whom the request is made
3. Identity of the document (in company terms if possible)
4. Company document number
5. Date of request
6. Priority for response
7. Internal I.D. number or docket number (for filing)
8. Date request fulfilled
9. Comment section (did the response fulfill request).

It should be noted that there is no universal language used to identify documents. Different companies have different names for the same type of document. It is therefore essential to clearly communicate what information is needed and desired prior to writing the request. The document requests should be in duplicate: one copy for the company and the other to be retained in the case file. To avoid long discussions and legal department involvement, all documents obtained should be considered proprietary information.

Prior to the documents actually being received, a filing system should be developed. The system should be secure, accessible to all team members and ensure that individual documents are easily retrievable. The administrative support person could manage the filing system to ensure its continued effectiveness. NOTE: Only appropriate documents should be maintained in the filing system; field notes, document "clips", and document review/evaluation notes should remain with the corresponding 1B's.

Exhibit 2 contains a list of those documents most commonly requested. It is divided into two sections: Pre-Unit Selection and Unit-Specific Documents.

INSPECTION FACILITIES

The PQV team needs a suitable work area/command center from which the inspection can be conducted and coordinated. Except in the most unusual of circumstances, the company will provide the requisite onsite space. Almost any room will suffice, providing it meets some basic requirements. The work area must be secure 24 hours a day with access limited to the inspection team and those company officials who would respond in an emergency. This is important so as to preclude taking boxes of documents and equipment in and out each day. The room should have sufficient desks and/or tables for reviewing documents and writing the report. Provisions should be made for communications—one phone line as a minimum. Outgoing calls should be charged on the Area Office calling card. Where phone service is not provided, the team should have a portable cellular phone.

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Sufficient power outlets should be available for charging pumps, batteries and other inspection equipment.

The inspection team will need copies of a number of documents. It is hoped that the company would provide copying services or the use of a copy machine. The administrative support person could make the copies should the company not provide these services.

The team leader must determine as soon as possible, what—if any—of the necessary facilities the company will provide. If the company does not provide all of the necessary facilities voluntarily, or puts disruptive restrictions on their use, the ARA for Technical Support should be contacted as soon as possible so that alternate facilities can be arranged. This may result in the use of a rented copier(s) and office space.

INSPECTION EQUIPMENT

Upon entry to the site, the inspection team should be fully prepared with all necessary inspection equipment and personal protective equipment. Exhibit 3 contains a list of equipment that may be useful to prepare for the inspection. In addition, an inspection "kit" is outlined which can be used to set up the command center. Some of the items in the "kit" may appear to be trivial; however, *all of these items will be needed at some time during the inspection. It may not be practical to go back and forth to the office or a store to get these items, particularly if the inspection site is in a remote location.* The administrative support person would be responsible for maintaining adequate supplies throughout the inspection.

CRITICAL INSPECTION AREAS

It is essential that team members have specific subjects and areas to investigate. The team leader, with input from the team members, should assign the inspection areas prior to entry. This will help to avoid confusion and duplication of effort. In addition, the team members will be able to be better prepared for their individual tasks.

As inspection subjects are completed, the information should be reviewed with the team leader before going on to the next assignment. The state of compliance or noncompliance within any given area may require the team leader to modify the assignment list so as to make the most of the resources available.

CONTRACTORS

Contractors are an integral part of any PSM inspection. There may be only a few contractors or dozens, with several hundred contract employees, depending on whether the facility is undergoing a shutdown or turnaround.

It is imperative that, upon entry, the scope of the contractor activity be determined. The construction specialist on the team will have to formulate an inspection plan and set appropriate priorities. It is not the intent of the PQV inspection to inspect all outside contractors that are on-site, rather to inspect only those contractors who may be exposed to, or could cause or be affected by a catastrophic incident. Food service workers, certain janitorial employees and similar activities would

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not normally be inspected. Remote construction projects not associated with catastrophic potential would not necessarily be inspected.

The term "contractor" is not limited to construction type activities. Many chemical facilities use contract maintenance workers, vessel and piping inspectors, vessel heat treating, cleaning, engineering and similar non-construction contractors who remain at the facility year round or are called in at regular intervals. They are used to supplement existing plant personnel for regular duties and for special projects.

A shared responsibility for both contractors and company is quality assurance. It is essential that all materials and workmanship meet engineering standards. There should be sufficient checks to ensure that materials, such as the proper alloy or carbon steel pipe is used, and that the studs and/or bolts are of the proper size and grade. This is especially important in contractor supplied materials.

CRITICAL EXPERTISE

Situations may arise in a PQV inspection that are beyond the technical expertise of the team members. A list should be developed identifying OSHA personnel and/or private sector experts and how they may be contacted. Areas where this expertise may be needed are:

1. Pressure equipment
2. Fire protection (fire brigades)
3. Facility siting
4. Emergency medical services
5. Hazardous waste operations
6. Dispersion modeling & incident command centers
7. Process hazard analysis/HAZOPS
8. Process chemistry
9. Industry practice

By no means is this list all-inclusive. It should be modified as needed to reflect current technology and hazards.

DOCUMENTATION

In order to withstand the probable legal challenges, all items must be thoroughly documented. Since the team will be made up of journey- and senior-level CSHOs, good documentation is to be expected. All OSHA-1B forms must be complete and legible. Shortcuts for employer knowledge such as "should have known" or "reasonable diligence" are not acceptable. Appropriate company documents, logs, procedures, permits, etc., should be referenced on the 1B for the particular violation.

Photographic documentation, either still camera or videotape, should be reviewed as soon as practicable to ensure that the condition or violation is appropriately depicted. Retake any photos or videos that are not good quality.

CASE FILE AND REPORT PREPARATION

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A PQV inspection will take weeks or months of onsite activity and will generate a large amount of paper, both in field notes and documents. It is essential that the paper flow be organized and well maintained. This will result not only in a more efficient onsite survey, but will greatly reduce the write-up time.

A daily log, either manual or computer generated, should be maintained indicating the team members onsite, daily activities, meetings, problems, or other details, as necessary. All OSHA-1B forms should be completed as the violation is observed, documenting the employees exposed, the date, time, location and management representative who accompanied the CSHO. Each instance of a violation should have a separate 1B. Where multiple violations are noted on a form, the form should be photocopied and highlighted showing the appropriate instance and corresponding documentation. Alleged violation descriptions should be written as soon as practicable, while the hazard is fresh in the mind of the CSHO. Multi-employer policy citations must be coordinated with respect to exposing, controlling, correcting and creating employers' files.

Case file structure and organization must begin prior to entry into the facility. All documents must be logged and an index (computer preferred) generated, indicating the subject matter, document identification number, file number and the location of the document (box number). This is essential, as these documents may have to be referenced or retrieved many times during the course of the inspection and the review process. A data base management program for the PC's would be extremely beneficial. Computer disks should be backed up daily, or more often as necessary. The photos and videotape taken during the inspection should be properly identified with photographer, date, roll or tape number and subject. They should be kept in a separate file.

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EXHIBIT 1**PRE-INSPECTION PREPARATION**

- A. Previous OSHA history - nationwide search
 - 1. all citations and/or reports
 - 2. litigation results
 - 3. outstanding issues, items in contest
 - 4. health response team reports
 - 5. NIOSH evaluations if any
- B. EPA history
 - 1. reportable releases
 - 2. reports of any kind
 - 3. complaints and pending actions
- C. Other Agency histories - local/State/Federal
 - 1. Dept. of Transportation
 - 2. Coast Guard
 - 3. ESDA/FEMA
 - 4. State Fire Marshal
 - 5. State Boiler and Pressure Vessel
- D. Previous PetroSEP/PSM inspection results
 - 1. citations
 - 2. team members & expertise
 - 3. settlement agreements or litigation results
- E. Identify contact people -- other jurisdictions
 - EPA, DOT, Coast Guard, etc.
- F. Acquire necessary codes or standards
 - ASME, API, ANSI, NFPA, etc.

INSPECTION STRATEGY

- A. Identify critical needs and expertise
- B. Select team members
- C. Identify expertise within the team

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- D. Identify critical inspection areas
- E. Assign areas according to expertise
- F. Identify areas lacking expertise
 - 1. provide training
 - 2. bring in additional resources
- G. Develop a tracking system for documents
- H. Develop a daily log of on-site activities
- I. Identify known scheduling conflicts
 - Team members and/or employer
- J. Develop weekly schedule of activities
 - 1. travel, write up, start/stop times
 - 2. employer/employee and Area Office updates

PLANNING AND SCHEDULING

- A. Create a Projected Time Line
 - 1. Projected records and program review time
 - 2. Projected walkaround time
 - 3. Projected write-up time
- B. Resource Scheduling
 - 1. Team leader and construction specialist enter first for program and records review; present document request list.
 - 2. Full team enters following acquisition of requested documents for program/record review & walkaround
 - 3. Expert assistance enters as needed
- C. Equipment Acquisition
 - 1. Required PPE
 - 2. Technical equipment

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- A. OSHA 200 logs for past 3 years
 - 1. Employer
 - 2. Contractors
- B. Incident reports
 - 1. Near miss
 - 2. Fires
 - 3. All releases (cross check with EPA documents)
- C. Site plan/Facility overview
- D. Simplified flow diagrams
- E. All permit procedures
 - 1. Confined space
 - 2. Hot work
 - 3. Others
- F. Hazard communication
- G. Overall emergency response plan (emergency action plan, evacuation plan)
- H. Lockout/Tagout
- I. PPE plan/Requirements
- J. Audits
 - 1. Internal
 - 2. Corporate
 - 3. Contracted
 - 4. Insurance/Consultant
- K. Fire brigade records
 - 1. Organizational statement
 - 2. Training records
 - 3. Callouts/Responses
 - 4. Roster

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- 5. Equipment inspection
 - L. Respirator program and inspections (emergency use)
 - M. Infection/Exposure control program (bloodborne)
 - N. Safety and health outline
 - 1. Minutes of safety and health committee meetings and walkaround reports
 - 2. Committee roster
 - O. Disaster preparedness program
 - P. Facility description
 - 1. Size, capacity, age (units)
 - 2. History
 - Q. Turnaround/Shutdown schedule (not turnaround plan)
 - R. Safety and health complaints
 - S. Accident investigation logs
 - T. Industry hazard alerts (fire and explosion information from other facilities) ("Lessons Learned" by API)
 - U. Process hazard analysis scheduling procedure

II. UNIT-SPECIFIC DOCUMENTS

- A. Written operating procedures
 - 1. All current procedures
 - a. Normal
 - b. Abnormal
 - c. Emergency
 - 2. Startup procedures
 - a. Partial (swoop down procedures)
 - b. Full (cold)
 - 3. Shutdown procedures
 - a. Normal
 - b. Emergency
 - 4. Upset conditions (beyond normal operating parameters)

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- B. Process safety information
 - 1. Process chemistry
 - 2. Capacity (volume)
 - 3. Operating temperatures and pressures
 - Alarm settings (high, high-high, low, low-low, etc.)
 - 4. Operating parameters
 - 5. Consequences of deviations
 - 6. Flow rates
- C. Operating logs (past 6 months)
 - 1. Foreman
 - 2. Operator
 - 3. Manual and Computer
- D. Piping and instrumentation diagrams (P&IDs)
 - 1. Working (unit level) **NOTE: Must be current.**
 - 2. Archival
 - 3. Simplified (detailed, at a later date)
 - 4. Product
 - 5. Utility
 - 6. Fire protection
- E. Training records
 - 1. Operator and supervisory
 - 2. Training records (summary) for all safety and health programs
 - a. Hazard communication
 - b. Emergency response
 - c. Bloodborne
 - d. Respirators and PPE

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- e. SCBA
 - f. Fire
 - g. Others
- F. Permits for the units
 - Hot work, confined space, etc.
- G. Pressure vessel records
 1. For at least 20 different vessels, selection based on age, pressure, temperature, toxic chemical involved (corrosive nature, i.e. sulfuric acid), repair history, *environmental stress cracking, etc.*
 2. Inspection records
 - a. All previous records
 - b. Analysis of defects
 - c. Nondestructive testing records
 - d. Inspection schedule and frequency
 - e. Internal
 - f. External
 - g. On-stream
 - h. Special
 - i. U-1 and U-2 records
 3. Inspector qualifications
 - a. ASNT or equivalent levels (1, 2, or 3)
 - b. Roster of inspectors
 - c. Training history and documentation
 4. Pressure relief valve (PRV) inspection records
 5. Selection criteria for PRV's, vessels, etc.
- H. Unit plot plan - detailed
- I. Instrumentation calibration records
- J. Unit emergency response / Action plan
- K. *Control room blueprint and schematic*
- L. Work orders
 1. Outstanding

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2. Obtain a sample of completed work order
 3. Written work order procedure
 4. All safety work orders
- M. Environmental sampling records
1. Noise
 2. Air contaminants/Toxins
 3. Asbestos
- N. Product sampling procedures
- O. Calibration records for IH sampling equipment
- P. Pre-startup review
- Q. Rotating equipment inspection records
1. Schedule
 2. Repair records
- R. Operator certification
- S. Flare system diagram (P&ID)
- T. Process hazard analysis (Haz-Op, What-If, etc.)
- U. Piping inspection program
1. Records/Results
 2. Schedule
 3. Inspector qualifications

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EXHIBIT 3

INSPECTION EQUIPMENT

I. PERSONAL PROTECTIVE EQUIPMENT

- A. Standard PPE per directive
 - 1. Safety shoes
 - 2. Safety glasses with side shields
 - 3. Hard hat
- B. Site specific PPE
 - 1. Hearing protection
 - 2. Respirators with proper filters/cartridges
- C. Flame retardant clothing/coveralls
- D. Emergency escape packs, where necessary
- E. Supplied-air respirators (only trained CSHOs)
- F. Oxygen and combustible meters

II. SAMPLING EQUIPMENT

- A. Hydrogen sulfide dataloggers/dosimeters
- B. Noise dosimeters
- C. Benzene equipment/media
- D. Sulfuric acid/hydrogen fluoride equipment/media
- E. Asbestos media
- F. Other air contaminants
- G. Charging facilities (area and equipment)
- H. TSD sites - specific requirements

III. TECHNICAL EQUIPMENT

- A. Cameras and video cameras
 - 1. Company policy regarding use

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2. Each CSHO/inspection team equipped with a camera
3. Careful log of each frame (who, when, where, what)

B. FILM

1. Each roll should be identified with CSHO, date, and time prior to developing
2. Each picture identified with CSHO, date, and time
3. Film must be developed as soon as possible, and identified (who, what, where, when)
4. Film log must be maintained with roll number, CSHO, date in for developing, date returned
5. Photos should be mounted on worksheets and identified sequentially for each team member
6. Negatives must be identified and secured (preferably stored separately from developed photographs)

C. Videotapes

1. Identified with CSHO, date, and subject
2. Original tapes must be maintained
3. Videotape log maintained with CSHO, camera number (serial number), and date

D. Audiotapes

1. Primarily for interviews and/or field notes
2. Company policy
3. Permit requirements
4. Original tapes must be retained in file
5. Transcription (as needed)
6. Tapes must be identified with date, team member, and subject matter
7. Tapes must be logged

INSPECTION KIT

I. Office Supplies

- A. Folders (file folders and expandable)
- B. Paper clips
- C. Hole punch
- D. Stapler and staples
- E. Staple puller
- F. White out/correction tape
- G. Colored pencils/markers
- H. Scissors
- I. Post-its
- J. Tape
- K. Labels

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- L. Pens/pencils
- M. Calculator
- N. Ruler/graph paper
- O. Filing Boxes
- P. Envelopes

II. Inspection Supplies

- A. OSHA forms (1b, photo mounting, 5(a)(1) letters, willful and 5(a)(1) worksheets)
- B. Film, audio and video tapes
- C. Batteries and battery packs for camcorders
- D. Film processing envelopes
- E. Sampling media
 - 1. smoke tubes
 - 2. scintillation vials
 - 3. filters/charcoal tubes
- F. OSHA 31's & travel vouchers

III. Command Center Equipment

- A. Computers (two or more)
 - 1. database management program
 - 2. word processor
 - 3. spreadsheet
 - 4. floppy disks
- B. Printer with paper and spare ribbon
- C. Disk storage boxes
- D. Fax with extra paper
- E. Cellular phone and pagers if needed
- F. Chargers for all equipment
- G. Answering machine
- H. Telephone directory (OSHA contacts)

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IV. Library/Reference Material

- A. API 510, 750, and others
- B. PUB 8-1.5, CPL2 PETROSEP (March 9, 1992)
- C. 1910.119 Process Safety Management
- D. OTI-PSM (Courses 330/340) manuals
- E. 2 sets General Industry and Construction Standards
- F. SAVEs manual
- G. Field Operations Manual
- H. Other references as needed; e.g., NFPA, ANSI, ASNT

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Appendix H

Recording PSM-Related Inspection in IMIS

Information about PSM-related inspection activity, as described at H. of this instruction, shall be recorded in IMIS following current instructions in the IMIS manual. These guidelines shall apply:

1. POV Inspections. The identifier code "PSMPQV" shall be used for these inspections.
 - a. PQV inspections, as described at J., K., and L. of this instruction, shall be identified by recording "PSMPQV" in item 25.d of the OSHA-1 Form.
 - b. Any inspections of onsite contractors shall also be identified by recording "PSMPQV" in item 25.d of the OSHA-1 Form.
 - c. Linkage of all of the employers inspected on-site shall be performed in accordance with the instructions for entering Multi-Employer Inspections currently specified in Chapter V, item E.(5.), of the IMIS Forms Manual.
 - d. PQV inspections may be programmed or unprogrammed; all PQV inspections shall be identified as comprehensive.
2. Unprogrammed PSM-related Inspections. All unprogrammed inspection activity relating to the PSM standard--as described at H.3. of this instruction--shall be coded as follows in Item 42, Optional Information of the OSHA-1 form:

<u>Type</u>	<u>ID</u>	<u>Value</u>
N	06	PSMP

This shall apply to all unprogrammed inspections in which compliance with the PSM standard is investigated; i.e., inspections in which the establishment:

- a. Is not in one of the SIC codes listed in Appendix C of this instruction; or
- b. Is not an establishment selected for a PQV inspection, although it is in one of the SIC codes listed in Appendix C of this instruction.

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3. Other Programmed Inspections: Screening for PSM Coverage. In all programmed safety and health inspections in general industry, a determination shall be made as to whether the establishment is covered by the PSM standard. The establishments shall be coded as follows in Item 42, Optional Information of the OSHA-1 form:

- a. Establishments determined to be covered by the PSM standard:

<u>Type</u>	<u>ID</u>	<u>Value</u>
N	06	PSMY

- b. Establishments determined to be not covered by the PSM standard:

<u>Type</u>	<u>ID</u>	<u>Value</u>
N	06	PSMN