

# OSHA REQUIRED PLANS and PROGRAMS

**NOTE: This is not intended to be a comprehensive list of all required Plans and Programs. These are extracts from OSHA Regulations.**

## **29 CFR 1910.1200, 29 CFR 1926.59 HAZARD COMMUNICATION (EMPLOYEE RIGHT TO KNOW PLAN)**

C **Written Hazard Communication Program** - The purpose of this section is to ensure that the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees. This transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training. This occupational safety and health standard is intended to address comprehensively the issue of evaluating the potential hazards of chemicals, and communicating information concerning hazards and appropriate protective measures to employees. Evaluating the potential hazards of chemicals, and communicating information concerning hazards and appropriate protective measures to employees, may include, for example, but is not limited to, provisions for:

- (1) developing and maintaining a written hazard communication program for the workplace
- (2) developing lists of hazardous chemicals present;
- (3) labeling of containers of chemicals in the workplace, as well as of containers of chemicals being shipped to other workplaces;
- (4) preparation and distribution of material safety data sheets to employees and downstream employers;
- (5) development and implementation of employee training programs regarding hazards of chemicals and protective measures.

This program must include a method for maintaining constant availability of Material Safety Data Sheets to all employees and a method of making employees capable of understanding the chemical terms and concepts of the MSDS and the various hazardous materials labeling and marking systems. This program must be designed as a maintainable ongoing program.

## **29 CFR 1910.38 EMPLOYEE EMERGENCY ACTION PLANS AND FIRE PREVENTION PLANS**

- C **Emergency action plan** - The following elements, at a minimum, shall be included in the plan:
  - (1) Emergency escape procedures and emergency escape route assignments;
  - (2) Procedures to be followed by employees who remain to operate critical plant operations before they evacuate;
  - (3) Procedures to account for all employees after emergency evacuation has been completed;
  - (4) Rescue and medical duties for those employees who are to perform them;
  - (5) The preferred means of reporting fires and other emergencies; and
  - (6) Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.
  
- C **Training** - Before implementing the emergency action plan, the employer shall designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees. The employer shall review the plan with each employee covered by the plan at the following times: (A) Initially when the plan is developed, (B) Whenever the employee's responsibilities or designated actions under the plan change, and (C) Whenever the plan is changed. The employer shall review with each employee upon initial assignment those parts of the plan which the employee must know to protect the employee in the event of an emergency. The written plan shall be kept at the workplace and made available for employee review.
  
- C **Fire prevention plan** - The fire prevention plan shall be in writing. The following elements, at a minimum, shall be included in the fire prevention plan:
  - (1) A list of the major workplace fire hazards and their proper handling and storage procedures, potential ignition sources (such as welding, smoking and others) and their control procedures, and the type of fire protection equipment or systems which can control a fire involving them;
  - (2) Names or regular job titles of those personnel responsible for maintenance of equipment and systems installed to prevent or control

ignitions or fires; and

(3) Names or regular job titles of those personnel responsible for control of fuel source hazards.

(4) The employer shall control accumulations of flammable and combustible waste materials and residues so that they do not contribute to a fire emergency. The housekeeping procedures shall be included in the written fire prevention plan.

(5) The employer shall regularly and properly maintain, according to established procedures, equipment and systems installed on heat producing equipment to prevent accidental ignition of combustible materials. The maintenance procedures shall be included in the written fire prevention plan.

## **29 CFR 1926.150 and 1926.24 FIRE PROTECTION AND PREVENTION**

- C **fire protection program** - The employer shall be responsible for the development of a fire protection program to be followed throughout all phases of the construction and demolition work, and he shall provide for the firefighting equipment as specified in this subpart. As fire hazards occur, there shall be no delay in providing the necessary equipment.
- C **educational program** -Where the employer has provided portable fire extinguishers for employee use in the workplace, the employer shall also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage fire fighting.

## **29 CFR 1910.165 EMPLOYEE ALARM SYSTEMS**

- C **Emergency procedures** - The employer shall establish procedures for sounding emergency alarms in the workplace. For those employers with 10 or fewer employees in a particular workplace, direct voice communication is an acceptable procedure for sounding the alarm provided all employees can hear the alarm. Such workplaces need not have a back-up system.

## **29 CFR 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).**

- C **Energy control program** - The employer shall establish a program consisting of

energy control procedures, employee training and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, startup or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source and rendered inoperative.

Procedures shall be developed, documented and utilized for the control of potentially hazardous energy when employees are engaged in the activities covered by this section. The procedures shall clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy, and the means to enforce compliance including, but not limited to, the following:

- (A) A specific statement of the intended use of the procedure;
- (B) Specific procedural steps for shutting down, isolating, blocking and securing machines or equipment to control hazardous energy;
- (C) Specific procedural steps for the placement, removal and transfer of lockout devices or tagout devices and the responsibility for them; and
- (D) Specific requirements for testing a machine or equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control measures.

C **Inspections** - Where tagout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized and affected employee, of that employee's responsibilities under the energy control procedure being inspected, and the elements set forth in paragraph (c)(7)(ii) of this section. The employer shall certify that the periodic inspections have been performed. The certification shall identify the machine or equipment on which the energy control procedure was being utilized, the date of the inspection, the employees included in the inspection, and the person performing the inspection.

C **Training Program** - The employer shall provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. The training shall include the following:

- (1) Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary

for energy isolation and control.

(2) Each affected employee shall be instructed in the purpose and use of the energy control procedure.

(3) All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

## **29 CFR 1910.132 PERSONAL PROTECTIVE EQUIPMENT HAZARDS ASSESSMENT PROGRAM**

C **Hazard assessment and equipment selection** - The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the employer shall:

(1) Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;

(2) Communicate selection decisions to each affected employee; and,

(3) Select PPE that properly fits each affected employee. Note: Non-mandatory Appendix B contains an example of procedures that would comply with the requirement for a hazard assessment.

(4) The employer shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.

(5) The employer shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification.

C **Assessment Guidelines** - The Assessment should be performed in accordance with OSHA Standard Number 1910 Subpart I Appendix B, "Non-mandatory Compliance Guidelines for Hazard Assessment and Personal Protective

Equipment Selection". The assessment guide lines are as follows:.

- (1) Impact
- (2) Penetration
- (3) Compression (roll-over)
- (4) Chemical
- (5) Heat
- (6) Harmful Dust
- (7) Light (Optical) Radiation
- (8) Laser

C **Sources of Hazards** - Specific hazards that must be considered are:

(1) Sources of Motion

- movement of tools, machine elements or particles
- movement of personnel that could result in collision with stationary objects;

(2) Sources of High Temperatures

- burns
- eye injury
- ignition of protective equipment, etc.

(3) Chemical Exposures

(4) Sources of Harmful Dust

(5) Sources of Light Radiation

- welding
- brazing

- cutting
- furnances
- heat treating
- high intensity lights
- UV
- lasers

(6) Sources of Falling Objects or Dropping Objects

(7) Sources of Sharp Objects

(8) Layout of Workplace and Location of Co- Workers

(9) Electrical

- C **Data Analysis** - Following the survey an assessment of the hazards was performed and a determination of any additional PPE needs was made. The attached document includes an individual report on each position surveyed with a summary of results and a narrative report.

## **ERGONOMICS SAFETY STANDARD**

- C **Application** - OSHA has listed ergonomics as one of its most important initiatives for the 1990's. OSHA's new ergonomics standard may make more changes in the work place than any standard in history. This standard, initially issued as a proposed rule, will be enforced with citations issued under the OSHA General Duty Clause. Major fines will be issued under the OSHA Egregious Violations Policy if the employer is aware of the ergonomics problem, and if the ergonomics problems are correctable, then the fine is \$5,000.00 per situation (one situation per each employee, each workstation, each day). The standard will apply to all workers, both General Industry and Construction.

- C **Ergonomics Protection Program** - The employer is required to develop a written Ergonomics Protection Program (EPP). The required elements of an EPP written program include:

(1) a thorough job analyses for all potentially affected jobs

- screening surveys to determine extent of current problem
- job hazard analyses to identify potential problems
- periodic surveys to regularly update the program

(2) a thorough abatement plan for the prevention and control of ergonomic problems, including:

- engineering controls
- work practice controls
- personal protective equipment
- administrative controls

(3) a medical management plan including:

- designated health care providers
- a symptoms survey
- a health surveillance plan
- training and education for health care providers
- protocols for health care providers
- recordkeeping procedures
- procedures for monitoring trends

(4) Plan for employee training required to include:

- (1) signs and symptoms
- (2) prevention
- (3) use of special equipment
- (4) engineering controls
- (5) work practice controls



(6) administrative controls

(7) procedures for re-training required upon re-assignment or transfer and as a refresher as needed to maintain the employees knowledge of the above referenced topics.

## **29 CFR 1910.134 RESPIRATORY PROTECTION PROGRAM**

C Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protective program which shall include the requirements outlined in paragraph (b) of this section.

### **Requirements for a minimal acceptable respiratory program:**

(1) Written standard operating procedures governing the selection and use of respirators shall be established.

(2) Respirators shall be selected on the basis of hazards to which the worker is exposed.

(3) The user shall be instructed and trained in the proper use of respirators and their limitations.

(5) Respirators shall be regularly cleaned and disinfected. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.

(6) Respirators shall be stored in a convenient, clean, and sanitary location.

(7) Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced. Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.

(8) Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.

(9) There shall be regular inspection and evaluation to determine the continued effectiveness of the program.

(10) Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

(11) Approved or accepted respirators shall be used when they are available. The respirator furnished shall provide adequate respiratory protection against the particular hazard for which it is designed in accordance with standards established by competent authorities.

(12) Standard procedures shall be developed for respirator use. These should include all information and guidance necessary for their proper selection, use, and care. Possible emergency and routine uses of respirators should be anticipated and planned for.

(13) The correct respirator shall be specified for each job. The respirator type is usually specified in the work procedures by a qualified individual supervising the respiratory protective program. The individual issuing them shall be adequately instructed to insure that the correct respirator is issued.

(14) Written procedures shall be prepared covering safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

(15) A program for maintenance and care of respirators shall be adjusted to the type of plant, working conditions, and hazards involved, and shall include the following basic services:

- (i) Inspection for defects (including a leak check),
- (ii) Cleaning and disinfecting,
- (iii) Repair,

## **29 CFR 1910.94 VENTILATION**

- C **Respiratory protection program** as defined and described in 1910.134 (a) and (b), shall be established wherever it is necessary to use respiratory protective equipment.

## 29 CFR 1910.95, 29 CFR 1926.52 OCCUPATIONAL NOISE EXPOSURE

- C **Hearing conservation program** - The employer shall administer a continuing, effective hearing conservation program, as described in paragraphs (c) through (o) of this section, whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or, equivalently, a dose of fifty percent. For purposes of the hearing conservation program, employee noise exposures shall be computed in accordance with appendix A and Table G-16a, and without regard to any attenuation provided by the use of personal protective equipment.
- C **Monitoring program** - When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, the employer shall develop and implement a monitoring program.
- C **Audiometric testing program** - The employer shall establish and maintain an audiometric testing program as provided in this paragraph by making audiometric testing available to all employees whose exposures equal or exceed an 8-hour time-weighted average of 85 decibels.
- C **Training program** - The employer shall institute a training program for all employees who are exposed to noise at or above an 8-hour time-weighted average of 85 decibels, and shall ensure employee participation in such program. The training program shall be repeated annually for each employee included in the hearing conservation program. Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes. The employer shall ensure that each employee is informed of the following: (i) The effects of noise on hearing; (ii) The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care; and (iii) The purpose of audiometric testing, and an explanation of the test procedures.

## 29 CFR 1910.1030 BLOODBORNE PATHOGENS

- C **Exposure Control Plan** - Each employer having an employee(s) with occupational exposure as defined by paragraph (b) of this section shall establish a written Exposure Control Plan designed to eliminate or minimize employee exposure. The Exposure Control Plan shall contain at least the following elements:
  - (1) The exposure determination
  - (2) The schedule and method of implementation for Methods of

Compliance, HIV and HBV Research Laboratories and Production Facilities, Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, Communication of Hazards to Employees, and Recordkeeping, of this standard, and

(3) The procedure for the evaluation of circumstances surrounding exposure incidents as required by paragraph (f)(3)(i) of this standard.

(4) Each employer shall ensure that a copy of the Exposure Control Plan is accessible to employees in accordance with 29 CFR 1910.20(e).

(5) The Exposure Control Plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure.

C **Exposure Determination** - Each employer who has an employee(s) with occupational exposure as defined by paragraph (b) of this section shall prepare an exposure determination. This exposure determination shall contain the following:

(1) A list of all job classifications in which all employees in those job classifications have occupational exposure;

(2) A list of job classifications in which some employees have occupational exposure, and

(3) A list of all tasks and procedures or groups of closely related task and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed in accordance with the provisions of paragraph (c)(2)(i)(B) of this standard.

(4) This exposure determination shall be made without regard to the use of personal protective equipment.

C **Information and Training** - Employers shall ensure that all employees with occupational exposure participate in an Exposure Determination which must be provided at no cost to the employee and during working hours. Training shall be provided as follows:

(1) At the time of initial assignment to tasks where occupational exposure may take place;

(2) Within 90 days after the effective date of the standard; and at least

annually thereafter.

(3) The training program shall contain at a minimum the following elements:

- An accessible copy of the regulatory text of this standard and an explanation of its contents;
- A general explanation of the epidemiology and symptoms of bloodborne diseases;
- An explanation of the modes of transmission of bloodborne pathogens;
- An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan;
- An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;
- An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;
- Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;
- An explanation of the basis for selection of personal protective equipment;
- Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;
- Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;
- An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;
- Information on the post-exposure evaluation and follow-up that the

employer is required to provide for the employee following an exposure incident;

- An explanation of the signs and labels and/or color coding required by paragraph (g)(1); and

- An opportunity for interactive questions and answers with the person conducting the training session.

4) Additional Initial Training for Employees in HIV and HBV Laboratories and Production Facilities. Employees in HIV or HBV research laboratories and HIV or HBV production facilities shall receive the following initial training in addition to the above training requirements.

- the employer shall assure that employees demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV or HBV.

- The employer shall assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.

- The employer shall provide a training program to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

## **29 CFR 1910.119 PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS**

**C Operating procedures** - The employer shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements:

(1) Steps for each operating phase: (i) Initial startup; (ii) Normal operations; (iii) Temporary operations; (iv) Emergency shutdown including the conditions under which emergency shutdown is required, and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner; (v)

Emergency Operations; (vi) Normal shutdown; and, (vii) Startup following a turnaround, or after an emergency shutdown.

(2) Operating limits: (i) Consequences of deviation; and (ii) Steps required to correct or avoid deviation.

(3) Safety and health considerations: (i) Properties of, and hazards presented by, the chemicals used in the process; (ii) Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment; (iii) Control measures to be taken if physical contact or airborne exposure occurs; (iv) Quality control for raw materials and control of hazardous chemical inventory levels; and, (v) Any special or unique hazards.

C **Written plan of action** - Employers shall develop a written plan of action regarding the implementation of the employee participation required by this paragraph. Employers shall consult with employees and their representatives on the conduct and development of process hazards analyses and on the development of the other elements of process safety management in this standard. Employers shall provide to employees and their representatives access to process hazard analyses and to all other information required to be developed under this standard.

C **Process safety information** - In accordance with the schedule set forth in paragraph (e)(1) of this section, the employer shall complete a compilation of written process safety information before conducting any process hazard analysis required by the standard. The compilation of written process safety information is to enable the employer and the employees involved in operating the process to identify and understand the hazards posed by those processes involving highly hazardous chemicals. This process safety information shall include information pertaining to the hazards of the highly hazardous chemicals used or produced by the process, information pertaining to the technology of the process, and information pertaining to the equipment in the process.

(1) Information pertaining to the hazards of the highly hazardous chemicals in the process - This information shall consist of at least the following: (i) Toxicity information; (ii) Permissible exposure limits; (iii) Physical data; (iv) Reactivity data; (v) Corrosivity data; (vi) Thermal and chemical stability data; and (vii) Hazardous effects of inadvertent mixing of different materials that could foreseeably occur.

(2) Information pertaining to the technology of the process - Information concerning the technology of the process shall include at least the following: (i) A block flow diagram or simplified process flow diagram

(see Appendix B to this section); (ii) Process chemistry; (iii) Maximum intended inventory; (iv) Safe upper and lower limits for such items as temperatures, pressures, flows or compositions; and, (v) An evaluation of the consequences of deviations, including those affecting the safety and health of employees.

(3) Information pertaining to the equipment in the process. Information pertaining to the equipment in the process shall include: (i) Materials of construction; (ii) Piping and instrument diagrams (P&ID's); (iii) Electrical classification; (iv) Relief system design and design basis; (v) Ventilation system design; (vi) Design codes and standards employed; (vii) Material and energy balances for processes built after May 26, 1992; and, (viii) Safety systems (e.g. interlocks, detection or suppression systems).

(4) Process hazard analysis -The employer shall perform an initial process hazard analysis (hazard evaluation) on processes covered by this standard. The process hazard analysis shall be appropriate to the complexity of the process and shall identify, evaluate, and control the hazards involved in the process. Employers shall determine and document the priority order for conducting process hazard analyses based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process. The employer shall use one or more of the following methodologies that are appropriate to determine and evaluate the hazards of the process being analyzed. (i) What-If; (ii) Checklist; (iii) What-If/Checklist; (iv) Hazard and Operability Study (HAZOP); (v) Failure Mode and Effects Analysis (FMEA); (vi) Fault Tree Analysis; or (vii) An appropriate equivalent methodology.

- The process hazard analysis shall address: (i) The hazards of the process; (ii) The identification of any previous incident which had a likely potential for catastrophic consequences in the workplace; (iii) Engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases. (Acceptable detection methods might include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors.); (iv) Consequences of failure of engineering and administrative controls; (v) Facility siting; (vi) Human factors; and (vii) A qualitative evaluation of a range of the possible safety and health effects of failure of controls on employees in the workplace.

C **Training program** - Each employee presently involved in operating a process, and each employee before being involved in operating a newly assigned process,



shall be trained in an overview of the process and in the operating procedures as specified in paragraph (f) of this section. The training shall include emphasis on the specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to the employee's job tasks.

(1) Refresher training shall be provided at least every three years, and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process. The employer, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training.

(2) Training documentation - The employer shall ascertain that each employee involved in operating a process has received and understood the training required by this paragraph. The employer shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

C **Written procedures** - The employer shall establish and implement written procedures to maintain the on-going integrity of process equipment.

(1) Management of change - The employer shall establish and implement written procedures to manage changes (except for "replacements in kind") to process chemicals, technology, equipment, and procedures; and, changes to facilities that affect a covered process. The procedures shall assure that the following considerations are addressed prior to any change: (i) The technical basis for the proposed change; (ii) Impact of change on safety and health; (iii) Modifications to operating procedures; (iv) Necessary time period for the change; and, (v) Authorization requirements for the proposed change.

## **29 CFR 1910.120, 29 CFR 1926.65 HAZWOPER AS APPLIES TO EMERGENCY RESPONSE OPERATIONS**

C **Hazardous Waste Operations and Emergency Response Safety Plan** shall address the safety and health hazards of each phase of emergency response site operations and include the requirements and procedures for employee protection. The safety plan, as a minimum, shall address the following:

(1) A safety and health risk or hazard analysis for each task and operation

(2) Employee training assignments to assure compliance with this section.

(3) Personal protective equipment to be used by employees for each of the tasks and operations conducted as required by the personal protective equipment program (see also 1910.134).

(4) Medical surveillance requirements in accordance with this section.

(5) Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.

(6) Scene control measures in accordance with the site control program required in this section.

(7) Decontamination procedures in accordance with this section.

(8) An emergency response plan meeting the requirements of this section for safe and effective responses to emergencies, including the necessary PPE and other equipment.

(9) Confined space entry procedures (see also 1910.146)

(10) A spill containment program

## **29 CFR 1910.120, 29 CFR 1926.65 HAZWOPER AS APPLIES TO HAZARDOUS WASTE OPERATIONS**

**C Hazardous Waste Operations and Emergency Response Safety Plan** shall address the safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection. The Hazardous Waste Operations Safety Plan, as a minimum, shall address the following:

(1) A safety and health risk or hazard analysis for each site task and operation.

(2) Employee training assignments to assure compliance with this section.

(3) Personal protective equipment to be used by employees for each of the site tasks and operations being conducted as required by the personal protective equipment program (see also 1910.134)

(4) Medical surveillance requirements

(5) Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.

(6) Site control measures in accordance with the site control program required by this section.

(7) Decontamination procedures in accordance with this section.

(8) An emergency response plan meeting the requirements of this section for safe and effective responses to emergencies, including the necessary PPE and other equipment.

(9) Confined space entry procedures (see also 1910.146)

(10) A spill containment program

## **29 CFR 1910.217 MECHANICAL POWER PRESSES**

C **Inspection and maintenance program** - It shall be the responsibility of the employer to establish and follow a program of periodic and regular inspections of his power presses to ensure that all their parts, auxiliary equipment, and safeguards are in a safe operating condition and adjustment. The employer shall maintain a certification record of inspections which includes the date of inspection, the signature of the person who performed the inspection and the serial number, or other identifier, of the power press that was inspected.

## **29 CFR 1910.179 OVERHEAD AND GANTRY CRANES**

C **Preventive maintenance program** - based on the crane manufacturer's recommendations shall be established.

C **Inspection procedure** - for cranes in regular service is divided into two general classifications based upon the intervals at which inspection should be performed. The intervals in turn are dependent upon the nature of the critical components of the crane and the degree of their exposure to wear, deterioration, or malfunction. The two general classifications are herein designated as "frequent" and "periodic" with respective intervals between inspections as defined: {a} Frequent inspection - Daily to monthly intervals. {b} Periodic inspection - 1 to 12-month intervals.

(1) Frequent inspection. The following items shall be inspected for defects at intervals as defined in paragraph (j)(1)(ii) of this section or as specifically indicated, including observation during operation for any defects which might appear between regular inspections. All deficiencies such as listed shall be carefully examined and determination made as to whether they constitute a safety hazard:

- All functional operating mechanisms for maladjustment interfering with proper operation. Daily.

- Deterioration or leakage in lines, tanks, valves, drain pumps, and other parts of air or hydraulic systems. Daily.

- Hooks with deformation or cracks. Visual inspection daily; monthly inspection with a certification record which includes the date of inspection, the signature of the person who performed the inspection and the serial number, or other identifier, of the hook inspected. For hooks with cracks or having more than 15 percent in excess of normal throat opening or more than 10<sup>1</sup>/<sub>2</sub> twist from the plane of the unbent hook refer to paragraph (l)(3)(iii)(a) of this section.

- Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations. Visual inspection daily; monthly inspection with a certification record which includes the date of inspection, the signature of the person who performed the inspection and an identifier of the chain which was inspected.

- All functional operating mechanisms for excessive wear of components.

- Rope reeving for noncompliance with manufacturer's recommendations.

(2) Periodic inspection. Complete inspections of the crane shall be performed at intervals as generally defined in paragraph (j)(1)(ii)(b) of this section, depending upon its activity, severity of service, and environment, or as specifically indicated below. These inspections shall include the requirements of paragraph (j)(2) of this section and in addition, the following items. Any deficiencies such as listed shall be carefully examined and determination made as to whether they constitute a safety hazard:

- Deformed, cracked, or corroded members.

- Loose bolts or rivets.
- Cracked or worn sheaves and drums.
- Worn, cracked or distorted parts such as pins, bearings, shafts, gears, rollers, locking and clamping devices.
- Excessive wear on brake system parts, linings, pawls, and ratchets.
- Load, wind, and other indicators over their full range, for any significant inaccuracies.
- Gasoline, diesel, electric, or other powerplants for improper performance or noncompliance with applicable safety requirements.
- Excessive wear of chain drive sprockets and excessive chain stretch.
- Electrical apparatus, for signs of pitting or any deterioration of controller contactors, limit switches and pushbutton stations.

## 29 CFR 1910.181 DERRICKS

C **Inspection procedure** - for derricks in regular service is divided into two general classifications based upon the intervals at which inspection should be performed. The intervals in turn are dependent upon the nature of the critical components of the derrick and the degree of their exposure to wear, deterioration, or malfunction. The two general classifications are herein designated as frequent and periodic with respective intervals between inspections as defined: {a} Frequent inspection - Daily to monthly intervals {b} Periodic inspection 1 to 12 month intervals, or as specified by the manufacturer.

(1) Frequent inspection - Items such as the following shall be inspected for defects at intervals as defined in paragraph (d)(1)(ii)(a) of this section or as specifically indicated, including observation during operation for any defects which might appear between regular inspections. Deficiencies shall be carefully examined for any safety hazard:

- All control mechanisms: Inspect daily for adjustment, wear, and lubrication.
- All chords and lacing: Inspect daily, visually.

- Tension in guys: Daily.
- Plumb of the mast.
- Deterioration or leakage in air or hydraulic systems: Daily.
- Derrick hooks for deformations or cracks; for hooks with cracks or having more than 15 percent in excess of normal throat opening or more than 10° twist from the plane of the unbent hook, refer to paragraph (e)(3)(iii) of this section.
- Rope reeving; visual inspection for noncompliance with derrick manufacturer's recommendations.
- Hoist brakes, clutches, and operating levers: check daily for proper functioning before beginning operations.
- Electrical apparatus for malfunctioning, signs of excessive deterioration, dirt, and moisture accumulation.

(2) Periodic inspection - Complete inspections of the derrick shall be performed at intervals as generally defined in paragraph (d)(1)(ii)(b) of this section depending upon its activity, severity of service, and environment, or as specifically indicated below. These inspections shall include the requirements of paragraph (d)(2) of this section and in addition, items such as the following. Deficiencies shall be carefully examined and a determination made as to whether they constitute a safety hazard:

- Structural members for deformations, cracks, and corrosion.
- Bolts or rivets for tightness.
- Parts such as pins, bearings, shafts, gears, sheaves, drums, rollers, locking and clamping devices, for wear, cracks, and distortion.
- Gudgeon pin for cracks, wear, and distortion each time the derrick is to be erected.
- Powerplants for proper performance and compliance with applicable safety requirements.
- Hooks.

- Foundation or supports shall be inspected for continued ability to sustain the imposed loads.

- C **Preventive maintenance program**- based on the derrick manufacturer's recommendations shall be established.

## **29 CFR 1910.401, 29 CFR 1926.1071 DIVING**

- C **Diving program** - Defined as scientific diving and which is under the direction and control of a diving program containing at least the following elements: (A) Diving safety manual which includes at a minimum: Procedures covering all diving operations specific to the program; procedures for emergency care, including recompression and evacuation; and criteria for diver training and certification.

## **29 CFR 1910.177 SERVICING MULTI-PIECE AND SINGLE PIECE RIM WHEELS**

- C **Employee training program** -The employer shall provide a program to train all employees who service rim wheels in the hazards involved in servicing those rim wheels and the safety procedures to be followed.
- C **Safe operating procedures** - The employer shall establish a safe operating procedure for servicing multi-piece rim wheels and shall assure that employees are instructed in and follow that procedure.

## **29 CFR 1926.500 GUARDRAILS, HANDRAILS, AND COVERS**

- C **training program** - The employer shall provide a training program for all employees engaged in built-up roofing work so that they are able to recognize and deal with the hazards of falling associated with working near a roof perimeter. The employees shall also be trained in the safety procedures to be followed in order to prevent such falls. The employer shall assure that employees engaged in built-up roofing work have been trained and instructed in the following areas:
  - (1) The nature of fall hazards in the work area near a roof edge;
  - (2) The function, use, and operation of the MSS system, warning line, and safety monitoring systems to be used;
  - (3) The correct procedures for erecting, maintaining, and disassembling the systems to be used;

- (4) The role of each employee in the safety monitoring system when this system is used;
- (5) The limitations on the use of mechanical equipment; and
- (6) The correct procedures for the handling and storage of equipment and materials.
- (7) Training shall be provided for each newly hired employee, and for all other employees as necessary, to assure that employees maintain proficiency in the areas listed in paragraph (g)(6)(ii) of this section.

## **29 CFR 1926.404 WIRING DESIGN AND PROTECTION**

- C **Equipment grounding conductor program** - for branch circuits; The employer shall use either ground fault circuit interrupters as specified in paragraph (b)(1)(ii) of this section or an assured equipment grounding conductor program as specified in paragraph (b)(1)(iii) of this section to protect employees on construction sites. These requirements are in addition to any other requirements for equipment grounding conductors. -
- C This program shall comply with the following minimum requirements:
  - (1) A written description of the program, including the specific procedures adopted by the employer, shall be available at the jobsite for inspection and copying by the Assistant Secretary and any affected employee.
  - (2) The employer shall designate one or more competent persons (as defined in 1926.32(f)) to implement the program.
  - (3) Each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed to damage, shall be visually inspected before each day's use for external defects, such as deformed or missing pins or insulation damage, and for indications of possible internal damage. Equipment found damaged or defective shall not be used until repaired.
  - (4) The employer shall not make available or permit the use by employees of any equipment which has not met the requirements of this paragraph (b)(1)(iii) of this section.
  - (5) Tests performed as required in this paragraph shall be recorded. This



test record shall identify each receptacle, cord set, and cord- and plug-connected equipment that passed the test and shall indicate the last date it was tested or the interval for which it was tested. This record shall be kept by means of logs, color coding, or other effective means and shall be maintained until replaced by a more current record. The record shall be made available on the jobsite for inspection by the Assistant Secretary and any affected employee.

## **29 CFR 1926.1060 Training Requirements for Stairways and Ladders**

C **Training program** - The employer shall provide a training program for each employee using ladders and stairways, as necessary. The program shall enable each employee to recognize hazards related to ladders and stairways, and shall train each employee in the procedures to be followed to minimize these hazards. The employer shall ensure that each employee has been trained by a competent person in the following areas, as applicable:

- (1) The nature of fall hazards in the work area;
- (2) The correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used;
- (3) The proper construction, use, placement, and care in handling of all stairways and ladders;
- (4) The maximum intended load-carrying capacities of ladders and
- (5) The standards contained in this subpart.
- (6) Retraining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through compliance with this section.

## **29 CFR 1910.1025, 29 CFR 1926.62 Lead**

C **Compliance program** - Each employer shall establish and implement a written compliance program to reduce exposures to or below the permissible exposure limit, and interim levels if applicable, solely by means of engineering and work practice controls in accordance with the implementation schedule in paragraph (e)(1). Written plans for these compliance programs shall include at least the following:

- (1) A description of each operation in which lead is emitted; e.g.

machinery used, material processed, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices;

(2) A description of the specific means that will be employed to achieve compliance, including engineering plans and studies used to determine methods selected for controlling exposure to lead;

(3) A report of the technology considered in meeting the permissible exposure limit;

(4) Air monitoring data which documents the source of lead emissions;

(5) A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;

(6) A work practice program which includes items required under paragraphs (g), (h) and (i) of this regulation;

(7) An administrative control schedule required by paragraph (e)(6), if applicable;

(8) Other relevant information.

C **Respirator program** - The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134 (b), (d), (e) and (f).

C **Medical surveillance program** - The employer shall institute a medical surveillance program for all employees who are or may be exposed above the action level for more than 30 days per year.

C **Training program** -The employer shall assure that each employee is trained in the following: (i) The content of this standard and its appendices; (ii) The specific nature of the operations which could result in exposure to lead above the action level; (iii) The purpose, proper selection, fitting, use, and limitations of respirators; (iv) The purpose and a description of the medical surveillance program, and the medical removal protection program including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females and hazards to the fetus and additional precautions for employees who are pregnant); (v) The engineering controls and work practices associated with the employee's job assignment including training of employees to

follow relevant good work practices described in Appendix B of this section; (vi) The contents of any compliance plan in effect; (vii) Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician; and (viii) The employee's right of access to records under 29 CFR 1910.20.

## **29 CFR 1910.1001, 29 CFR 1926.58 Asbestos**

- C **Compliance program** - Where the TWA and/or excursion limit is exceeded, the employer shall establish and implement a written program to reduce employee exposure to or below the TWA and to or below the excursion limit by means of engineering and work practice controls as required by paragraph (f)(1) of this section, and by the use of respiratory protection where required or permitted under this section.
- C **Respirator program.** (i) Where respiratory protection is required, the employer shall institute a respirator program in accordance with 29 CFR 1910.134(b), (d), (e), and (f).
- C **Employee information and training program** - The employer shall institute a training program for all employees who are exposed to airborne concentrations of asbestos at or above the action level and/or excursion limit and ensure their participation in the program.
  - (1) Training shall be provided prior to or at the time of initial assignment and at least annually thereafter.
  - (2) The training program shall be conducted in a manner which the employee is able to understand. The employer shall ensure that each employee is informed of the following:
    - (3) The health effects associated with asbestos exposure;
    - (4) The relationship between smoking and exposure to asbestos in producing lung cancer:
      - (5) The quantity, location, manner of use, release, and storage of asbestos, and the specific nature of operations which could result in exposure to asbestos;
    - (6) The engineering controls and work practices associated with the employee's job assignment;

(7) The specific procedures implemented to protect employees from exposure to asbestos, such as appropriate work practices, emergency and clean-up procedures, and personal protective equipment to be used;

(8) The purpose, proper use, and limitations of respirators and protective clothing;

(9) The purpose and a description of the medical surveillance program required by paragraph (l) of this section;

(10) The content of this standard, including appendices.

(11) The names, addresses and phone numbers of public health organizations which provide information, materials, and/or conduct programs concerning smoking cessation. The employer may distribute the list of such organizations contained in Appendix I, to comply with this requirement.

(12) The requirements for posting signs and affixing labels and the meaning of the required legends for such signs and labels.

C **Medical surveillance program** -The employer shall institute a medical surveillance program for all employees who are or will be exposed to airborne concentrations of fibers of asbestos at or above the action level and/or excursion limit.

C **Compliance program.** Written compliance programs required by paragraph (f)(2) of this section as a result of initial monitoring shall be completed and available for inspection and copying as soon as possible but no later than July 20, 1987.

## **29 CFR 1910.1017, 29 CFR 1915.1016, 29 CFR 1926.1117 Vinyl chloride**

C **Exposure determining program** - Where a determination conducted under paragraph (d)(1) of this section shows any employee exposures, without regard to the use of respirators, in excess of the action level, a program for determining exposures for each such employee shall be established. Such a program: (i) Shall be repeated at least monthly where any employee is exposed, without regard to the use of respirators, in excess of the permissible exposure limit. (ii) Shall be repeated not less than quarterly where any employee is exposed, without regard to the use of respirators, in excess of the action level, (iii) May be discontinued for any employee only when at least two consecutive monitoring

determinations, made not less than 5 working days apart, show exposures for that employee at or below the action level.

- C **Respiratory protection program** - meeting the requirements of 1910.134 shall be established and maintained.
  
- C **Training program** - Each employee engaged in vinyl chloride or polyvinyl chloride operations shall be provided training in a program relating to the hazards of vinyl chloride and precautions for its safe use. The program shall include: (i) The nature of the health hazard from chronic exposure to vinyl chloride including specifically the carcinogenic hazard; (ii) The specific nature of operations which could result in exposure to vinyl chloride in excess of the permissible limit and necessary protective steps; (iii) The purpose for, proper use, and limitations of respiratory protective devices; (iv) The fire hazard and acute toxicity of vinyl chloride, and the necessary protective steps; (v) The purpose for and a description of the monitoring program; (vi) The purpose for, and a description of, the medical surveillance program; (vii) Emergency procedures; (viii) Specific information to aid the employee in recognition of conditions which may result in the release of vinyl chloride; and (ix) A review of this standard at the employee's first training and indoctrination program, and annually thereafter.
  
- C **Medical surveillance program** - A program of medical surveillance shall be instituted for each employee exposed, without regard to the use of respirators, to vinyl chloride in excess of the action level. The program shall provide each such employee with an opportunity for examinations and tests in accordance with this paragraph. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee.

#### **29 CFR 1910.1045, 29 CFR 1915.1045, 29 CFR 1926.1145 Acrylonitrile**

- C **Compliance program** - The employer shall establish and implement a written program to reduce employee exposures to or below the permissible exposure limits solely by means of engineering and work practice controls, as required by paragraph (g)(1) of this section.
  
- C **Written plans** for these compliance programs shall include at least the following:
  - (1) A description of each operation or process resulting in employee exposure to AN above the permissible exposure limits;

(2) An outline of the nature of the engineering controls and work practices to be applied to the operation or process in question;

(3) A report of the technology considered in meeting the permissible exposure limits;

(4) A schedule for implementation of engineering and work practice controls for the operation or process, which shall project completion no later than November 2, 1980; and

(5) Other relevant information.

C **Respirator program** - The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134 (b), (d), (e), and (f).

C **A written plan for emergency situations** - shall be developed for each workplace where liquid AN is present. Appropriate portions of the plan shall be implemented in the event of an emergency.

(1) The plan shall specifically provide that employees engaged in correcting emergency conditions shall be equipped as required in paragraph (h) of this section until the emergency is abated.

C **Program for detecting leaks** - For operations involving liquid AN, the employer shall institute a program for detecting leaks and spills of liquid AN, including regular visual inspections.

C **Medical surveillance program** - The employer shall institute a program of medical surveillance for each employee who is or will be exposed to AN at or above the action level, without regard to the use of respirators. The employer shall provide each such employee with an opportunity for medical examinations and tests in accordance with this paragraph.

C **Training program** - By January 2, 1979, the employer shall institute a training program for and assure the participation of all employees exposed to AN above the action level, all employees whose exposures are maintained below the action level by engineering and work practice controls, and all employees subject to potential skin or eye contact with liquid AN.

**29 CFR 1910.1028, 29 CFR 1915.1028, 29 CFR 1926.1128 Benzene**

- C **Compliance program** - When any exposures are over the PEL, the employer shall establish and implement a written program to reduce employee exposure to or below the PEL primarily by means of engineering and work practice controls, as required by paragraph (f)(1) of this section.  
  
(1) The written program shall include a schedule for development and implementation of the engineering and work practice controls. These plans shall be reviewed and revised as appropriate based on the most recent exposure monitoring data, to reflect the current status of the program.
- C **Respirator program** - The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134 (b), (d), (e) and (f).
- C **Medical surveillance program** -The employer shall make available a medical surveillance program for employees who are or may be exposed to benzene at or above the action level 30 or more days per year; for employees who are or may be exposed to benzene at or above the PELs 10 or more days per year; for employees who have been exposed to more than 10 ppm of benzene for 30 or more days in a year prior to the effective date of the standard when employed by their current employer; and for employees involved in the tire building operations called tire building machine operators, who use solvents containing greater than 0.1 percent benzene.
- C **Medical removal plan** - When a physician makes a referral to a hematologist/internist as required under paragraph (i)(5)(ii) of this section, the employee shall be removed from areas where exposures may exceed the action level until such time as the physician makes a determination under paragraph (i)(8)(ii) of this section.
- C **Training program** shall be in accordance with the requirements of 29 CFR 1910.1200(h)(1) and (2), and shall include specific information on benzene for each category of information included in that section.

#### **29 CFR 1910.1048, 29 CFR 1926.1148 Formaldehyde**

- C **Leak and spill detection program** - For operations involving formaldehyde liquids or gas, the employer shall conduct a program to detect leaks and spills, including regular visual inspections.
- C **Respirator protection program** - Whenever respirator use is required by this standard, the employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134(b), (d), (e), and (f).

- C **Medical surveillance program** - The employer shall institute medical surveillance programs for all employees exposed to formaldehyde at concentrations at or exceeding the action level or exceeding the STEL. The employer shall make medical surveillance available for employees who develop signs and symptoms of overexposure to formaldehyde and for all employees exposed to formaldehyde in emergencies. When determining whether an employee may be experiencing signs and symptoms of possible overexposure to formaldehyde, the employer may rely on the evidence that signs and symptoms associated with formaldehyde exposure will occur only in exceptional circumstances when airborne exposure is less than 0.1 ppm and when formaldehyde is present in material in concentrations less than 0.1 percent.
- C **Written hazard communication program** - The employer shall develop, implement, and maintain at the workplace, a written hazard communication program for formaldehyde exposures in the workplace, which at a minimum describes how the requirements specified in this paragraph for labels and other forms of warning and material safety data sheets, and paragraph (n) for employee information and training, will be met. Employers in multi-employer workplaces shall comply with the requirements of 29 CFR 1910.1200(e)(2).
- C **Training Program** - The employer shall assure that all employees who are assigned to workplaces where there is exposure to formaldehyde participate in a training program, except that where the employer can show, using objective data, that employees are not exposed to formaldehyde at or above 0.1 ppm, the employer is not required to provide training. The training program shall be conducted in a manner which the employee is able to understand and shall include: (i) A discussion of the contents of this regulation and the contents of the Material Safety Data Sheet. (ii) The purpose for and a description of the medical surveillance program required by this standard, including: (A) A description of the potential health hazards associated with exposure to formaldehyde and a description of the signs and symptoms of exposure to formaldehyde. (B) Instructions to immediately report to the employer the development of any adverse signs or symptoms that the employee suspects is attributable to formaldehyde exposure. (iii) Description of operations in the work area where formaldehyde is present and an explanation of the safe work practices appropriate for limiting exposure to formaldehyde in each job; (iv) The purpose for, proper use of, and limitations of personal protective clothing and equipment; (v) Instructions for the handling of spills, emergencies, and clean-up procedures; (vi) An explanation of the importance of engineering and work practice controls for employee



protection and any necessary instruction in the use of these controls; and  
(vii) A review of emergency procedures including the specific duties or assignments of each employee in the event of an emergency.

## **29 CFR 1910.1027, 29 CFR 1926.1127 Cadmium**

- C **Compliance program** - Where the PEL is exceeded, the employer shall establish and implement a written compliance program to reduce employee exposure to or below the PEL by means of engineering and work practice controls, as required by paragraph (f)(1) of this section. To the extent that engineering and work practice controls cannot reduce exposures to or below the PEL, the employer shall include in the written compliance program the use of appropriate respiratory protection to achieve compliance with the PEL. Written compliance programs shall include at least the following:
- (1) A description of each operation in which cadmium is emitted; e.g., machinery used, material processed, controls in place, crew size, employee job responsibilities, operating procedures, and maintenance practices;
  - (2) A description of the specific means that will be employed to achieve compliance, including engineering plans and studies used to determine methods selected for controlling exposure to cadmium, as well as, where necessary, the use of appropriate respiratory protection to achieve the PEL;
  - (3) A report of the technology considered in meeting the PEL;
  - (4) Air monitoring data that document the sources of cadmium emissions;
  - (5) A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;
  - (6) A work practice program that includes items required under paragraphs (h), (i), and (j) of this section;
- C **Written plan for emergency situations** - The employer shall develop and implement a written plan for dealing with emergency situations involving substantial releases of airborne cadmium. The plan shall include provisions for the use of appropriate respirators and personal protective equipment. In addition, employees not essential to correcting the emergency situation shall be restricted from the area and normal

operations halted in that area until the emergency is abated.

C **Respirator program** - Where respiratory protection is required, the employer shall institute a respirator protection program in accordance with 29 CFR 1910.134.

C **Medical surveillance program** - The employer shall institute a medical surveillance program for all employees who are or may be exposed to cadmium at or above the action level unless the employer demonstrates that the employee is not, and will not be, exposed at or above the action level on 30 or more days per year (twelve consecutive months); and,

C **Training program** - shall be provided prior to or at the time of initial assignment to a job involving potential exposure to cadmium and at least annually thereafter. The employer shall make the training program understandable to the employee and shall assure that each employee is informed of the following:

(1) The health hazards associated with cadmium exposure, with special attention to the information incorporated in Appendix A to this section;

(2) The quantity, location, manner of use, release, and storage of cadmium in the workplace and the specific nature of operations that could result in exposure to cadmium, especially exposures above the PEL;

(3) The engineering controls and work practices associated with the employee's job assignment;

(4) The measures employees can take to protect themselves from exposure to cadmium, including modification of such habits as smoking and personal hygiene, and specific procedures the employer has implemented to protect employees from exposure to cadmium such as appropriate work practices, emergency procedures, and the provision of personal protective equipment;

(5) The purpose, proper selection, fitting, proper use, and limitations of respirators and protective clothing;

(6) The purpose and a description of the medical surveillance program required by paragraph (l) of this standard;

(7) The contents of this section and its appendices, and,

(8) The employee's rights of access to records under 1910.20(e) and (g).

**29 CFR 1910.1003, 29 CFR 1915.1003, 29 CFR 1926.1103 4-Nitrobiphenyl**

- C **Decontamination procedures** - shall be established and implemented to remove 4-Nitrobiphenyl from the surfaces of materials, equipment and the decontamination facility.
  
- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to the nature of the carcinogenic hazards of 4-Nitrobiphenyl, including local and systemic toxicity; {b} The specific nature of the operation involving Ethyleneimine which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of Ethyleneimine; {h} The purpose for and application of specific first aid procedures and practices; {i} A review of this section at the employee's first training and indoctrination program and annually thereafter.
  
- C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees. (1) Examinations. (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

**29 CFR 1910.1006, 29 CFR 1915.1006, 29 CFR 1926.1106 Methyl chloromethyl ether**

- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to: {a} The nature of the carcinogenic hazards of Methyl chloromethyl ether, including local and systemic toxicity; {b} The specific nature of the operation involving Methyl chloromethyl ether which could result in exposure; {c} The purpose for and application

of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of Methyl chloromethyl ether; {h} The purpose for and application of specific first aid procedures and practices; {i} A review of this section at the employee's first training and indoctrination program and annually thereafter.

- C **Emergency procedures** -shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

### **29 CFR 1910.1047, 29 CFR 1926.1147 Ethylene oxide**

- C **Compliance program** - Where the TWA or excursion limit is exceeded, the employer shall establish and implement a written program to reduce employee exposure to or below the TWA and to or below the excursion limit by means of engineering and work practice controls, as required by paragraph (f)(1) of this section, and by the use of respiratory protection where required or permitted under this section. The compliance program shall include a schedule for periodic leak detection surveys and a written plan for emergency situations, as specified in paragraph (h)(i) of this section. Such plans shall be reviewed at least every 12 months, and shall be updated as necessary to reflect significant changes in the status of the employer's compliance program.
- C **Medical surveillance program** - The employer shall institute a medical surveillance program for all employees who are or may be exposed to EtO at or above the action level, without regard to the use of respirators, for at least 30 days a year.
- C **Respirator program** - Where respiratory protection is required by this section, the employer shall institute a respirator program in accordance with 29 CFR 1910.134(b), (d), (e), and (f).
- C **A written plan for emergency situations** - shall be developed for each workplace where there is a possibility of an emergency. Appropriate portions of the plan shall be implemented in the event of an emergency.

### **29 CFR 1910.1012, 29 CFR 1915.1012, 29 CFR 1926.1112 Ethyleneimine**

- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to: {a} The nature of the carcinogenic hazards of Ethyleneimine, including local and systemic toxicity; {b} The specific nature of the operation involving Ethyleneimine which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of Ethyleneimine; {h} The purpose for and application of specific first aid procedures and practices; {i} A review of this section at the employee's first training and indoctrination program and annually thereafter.
  
- C **Emergency procedures** -shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

**29 CFR 1910.1044, 29 CFR 1915.1044, 29 CFR 1926.1144 1,2-dibromo-3-chloropropane**

- C **Compliance program** - The employer shall establish and implement a written program to reduce employee exposures to DBCP to or below the permissible exposure limit solely by means of engineering and work practice controls as required by paragraph (g)(1) of this section. The written program shall include a detailed schedule for development and implementation of the engineering and work practice controls. These plans shall be revised at least every six months to reflect the current status of the program.
  
- C **Respirator program** -The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134 (b), (d), (e), and (f).
  
- C **Written plans** - A written plan for emergency situations shall be developed for each workplace in which DBCP is present.
  
- C **Medical surveillance program** - The employer shall make available a medical surveillance program for employees who work in regulated areas and employees who are subjected to DBCP exposures in an emergency situation.

- C **Training program** - the employer shall institute a training program for all employees who may be exposed to DBCP and shall assure their participation in such training program. The employer shall assure that each employee is informed of the following: {a} The information contained in Appendix A; {b} The quantity, location, manner of use, release or storage of DBCP and the specific nature of operations which could result in exposure to DBCP as well as any necessary protective steps; {c} The purpose, proper use, and limitations of respirators; {d} The purpose and description of the medical surveillance program required by paragraph (m) of this section; and {e} A review of this standard, including appendices.

**29 CFR 1910.1013, 29 CFR 1915.1013, 29 CFR 1926.1113 beta- Propiolactone**

- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to {a} The nature of the carcinogenic hazards of beta-Propiolactone, including local and systemic toxicity; {b} The specific nature of the operation involving beta-Propiolactone which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of beta-Propiolactone; {h} The purpose for and application of specific first aid procedures and practices;
- C **emergency procedures** - shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.
- C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

**29 CFR 1910.1014, 29 CFR 1915.1014, 29 CFR 1926.1114 2-Acetylamino- fluorene**

- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program

including, but not necessarily limited to: {a} The nature of the carcinogenic hazards of 2-Acetylaminofluorene, including local and systemic toxicity; {b} The specific nature of the operation involving 2- Acetylaminofluorene which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 2-Acetylaminofluorene; {h} The purpose for and application of specific first aid procedures and practices;

- C **Emergency procedures** - shall be prescribed, and posted, and employees, shall be familiarized with their terms, and rehearsed in their application.
- C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

#### **29 CFR 1910.1015, 29 CFR 1915.1015, 29 CFR 1926.1115 4-Dimethylaminoazobenzene**

- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to {a} The nature of the carcinogenic hazards of 4-Dimethylaminoazobenzene, including local and systemic toxicity; {b} The specific nature of the operation involving 4-Dimethylaminoazo-benzene which could result in exposure; {c} The purpose for the application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 4-Dimethylaminoazobenzene; {h} The purpose for and application of specific first aid procedures and practices;
- C **Emergency procedures** shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

C (q)

Emergency response program to hazardous substance releases. This paragraph covers employers whose employees are engaged in emergency response no matter where it occurs except that it does not cover employees engaged in operations specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section. Those emergency response organizations who have developed and implemented programs equivalent to this paragraph for handling releases of hazardous substances pursuant to section 303 of the Superfund Amendments and Reauthorization Act of 1986 (Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. 11003) shall be deemed to have met the requirements of this paragraph.

..1910.120(q)(1)

(q)(1)

Emergency response plan. An emergency response plan shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations. The plan shall be in writing and available for inspection and copying by employees, their representatives, OSHA personnel. Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan complying with section 1910.38(a) of this part.

(q)(2)

Elements of an emergency response plan. The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following areas to the extent that they are not addressed in any specific program required in this paragraph:

(q)(2)(i)

Pre-emergency planning and coordination with outside parties..

(q)(2)(ii)



Personnel roles, lines of authority, training, and communication.

(q)(2)(iii)

Emergency recognition and prevention.

(q)(2)(iv)

Safe distances and places of refuge.

(q)(2)(v)

Site security and control.

(q)(2)(vi)

Evacuation routes and procedures.

(q)(2)(vii)

Decontamination.

(q)(2)(viii)

Emergency medical treatment and first aid.

(q)(2)(ix)

Emergency alerting and response procedures.

..1910.120(q)(2)(x)

(q)(2)(x)

Critique of response and follow-up.

(q)(2)(xi)

PPE and emergency equipment.

(q)(2)(xii)

Emergency response organizations may use the local emergency response plan or the state emergency response plan or both, as part of their emergency response plan to avoid duplication. Those items of

the emergency response plan that are being properly addressed by the SARA Title III plans may be substituted into their emergency plan or otherwise kept together for the employer and employee's use.

(q)(3)

Procedures for handling emergency response.

(q)(3)(i)

The senior emergency response official responding to an emergency shall become the individual in charge of a site-specific Incident Command System (ICS). All emergency responders and their communications shall be coordinated and controlled through the individual in charge of the ICS assisted by the senior official present for each employer.

NOTE TO (q)(3)(i). - The "senior official" at an emergency response is the most senior official on the site who has the responsibility for controlling the operations at the site. Initially it is the senior officer on the first-due piece of responding emergency apparatus to arrive on the incident scene. As more senior officers arrive (i.e. , battalion chief, fire chief, state law enforcement official, site coordinator, etc.) the position is passed up the line of authority which has been previously established.

(q)(3)(ii)

The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.

..1910.120(q)(3)(iii)

(q)(3)(iii)

Based on the hazardous substances and/or conditions present, the individual in charge of the ICS shall implement appropriate emergency operations, and assure that the personal protective equipment worn is appropriate for the hazards to be encountered. However, personal protective equipment shall meet, at a

minimum, the criteria contained in 29 CFR

1910.156(e) when worn while performing fire fighting operations beyond the incipient stage for any incident.

(q)(3)(iv)

Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard shall wear positive pressure self-contained breathing apparatus while engaged in emergency response, until such time that the individual in charge of the ICS determines through the use of air monitoring that a decreased level of respiratory protection will not result in hazardous exposures to employees.

(q)(3)(v)

The individual in charge of the ICS shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations. However, operations in hazardous areas shall be performed using the buddy system in groups of two or more.

(q)(3)(vi)

Back-up personnel shall be standing by with equipment ready to provide assistance or rescue. Qualified basic life support personnel, as a minimum, shall also be standing by with medical equipment and transportation capability.

..1910.120(q)(3)(vii)

(q)(3)(vii)

The individual in charge of the ICS shall designate a safety officer, who is knowledgeable in the operations being implemented at the emergency response site, with specific responsibility to identify and evaluate hazards and to provide direction with respect to the safety of operations for the emergency at hand.

(q)(3)(viii)

When activities are judged by the safety officer to be an IDLH and/or to involve an

imminent danger condition, the safety officer shall have the authority to alter, suspend, or terminate those activities. The safety official shall immediately inform the individual in charge of the ICS of any actions needed to be taken to correct these hazards at the emergency scene.

(q)(3)(ix)

After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.

- C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

#### **29 CFR 1910.1016, 29 CFR 1915.1016, 29 CFR 1926.1116 N-Nitrosodimethylamine**

- C **Training and indoctrination**- Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to: {a} The nature of the carcinogenic hazards of N-Nitrosodimethylamine, including local and systemic toxicity; {b} The specific nature of the operation involving N-Nitrosodimethylamine which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose of and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of N-Nitrosodimethylamine; {h} The purpose for and application of specific first aid procedures and practices.
- C **Emergency procedures** shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.
- C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

**29 CFR 1910.1018, 29 CFR 1915.1018, 29 CFR 1926.1118 Inorganic arsenic**

- C **Compliance Program** - The employer shall establish and implement a written program to reduce exposures to or below the permissible exposure limit by means of engineering and work practice controls. Written plans for these compliance programs shall include at least the following:
- (1) A description of each operation in which inorganic arsenic is emitted; e.g. machinery used, material processed, controls in place, crew size, operating procedures and maintenance practices;
  - (2) Engineering plans and studies used to determine methods selected for controlling exposure to inorganic arsenic;
  - (3) A report of the technology considered in meeting the permissible exposure limit;
  - (4) Monitoring data;
  - (5) A detailed schedule for implementation of the engineering controls and work practices that cannot be implemented immediately and for the adaptation and implementation of any additional engineering and work practices necessary to meet the permissible exposure limit;
  - (6) Whenever the employer will not achieve the permissible exposure limit with engineering controls and work practices by December 31, 1979, the employer shall include in the compliance plan an analysis of the effectiveness of the various controls, shall install engineering controls and institute work practices on the quickest schedule feasible, and shall include in the compliance plan and implement a program to minimize the discomfort and maximize the effectiveness of respirator use; and
  - (7) Other relevant information.
- C **Respirator program** - The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134 (b), (d), (e) and (f).
- C **Housekeeping plan** - A written housekeeping and maintenance plan shall be kept which shall list appropriate frequencies for carrying out housekeeping operations, and for cleaning and maintaining dust collection equipment. The plan shall be available for inspection by the Assistant Secretary.
- C **Medical surveillance program** - The employer shall institute a medical

surveillance program for the following employees:

(1) All employees who are or will be exposed above the action level, without regard to the use of respirators, at least 30 days per year; and

(2) All employees who have been exposed above the action level, without regard to respirator use, for 30 days or more per year for a total of 10 years or more of combined employment with the employer or predecessor employers prior to or after the effective date of this standard. The determination of exposures prior to the effective date of this standard shall be based upon prior exposure records, comparison with the first measurements taken after the effective date of this standard, or comparison with records of exposures in areas with similar processes, extent of engineering controls utilized and materials used by that employer.

- C **Training program** The employer shall institute a training program for all employees who are subject to exposure to inorganic arsenic above the action level without regard to respirator use, or for whom there is the possibility of skin or eye irritation from inorganic arsenic. The employer shall assure that those employees participate in the training program.

#### **29 CFR 1910.1050, 29 CFR 1915.1050, 29 CFR 1926.60 Methylenedianiline**

- C **Written plan for emergency situations** - shall be developed for each workplace where there is a possibility of an emergency. Appropriate portions of the plan shall be implemented in the event of an emergency. The plan shall specifically provide that employees engaged in correcting emergency conditions shall be equipped with the appropriate personal protective equipment and clothing as required in paragraphs (h) and (i) of this section until the emergency is abated. The plan shall specifically include provisions for alerting and evacuating affected employees as well as the elements prescribed in 29 CFR 1910.38, Employee emergency plans and fire prevention plans.
- C **Compliance program** - The employer shall establish and implement a written program to reduce employee exposure to or below the PELs by means of engineering and work practice controls, as required by paragraph (g)(1) of this section, and by use of respiratory protection where permitted under this section. The program shall include a schedule for periodic maintenance (e.g., leak detection) and shall include the written plan for emergency situations as specified in paragraph (d) of this section.

- C **Respirator program** - The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134(b), (d), (e), and (f).
- C **Program for detecting MDA leaks, spills, and discharges** - The employer shall institute a program for detecting MDA leaks, spills, and discharges, including regular visual inspections of operations involving liquid or solid MDA.
- C **Medical surveillance program** The employer shall make available a medical surveillance program for employees exposed to MDA

**29 CFR 1910.1007, 29 CFR 1915.1007, 29 CFR 1926.1107 3,3'-Dichlorobenzidine (and its salts).**

- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to {a} The nature of the carcinogenic hazards of 3,3'-Dichlorobenzidine (or its salts), including local and systemic toxicity; {b} The specific nature of the operation involving 3,3'-Dichlorobenzidine (or its salts) which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 3,3'-Dichlorobenzidine (or its salts); {h} The purpose for and application of specific first aid procedures and practices; {i} A review of this section at the employee's first training and indoctrination program and annually thereafter.
- C **Emergency procedures** - shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.
- C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

**29 CFR 1910.1008, 29 CFR 1915.1008, 29 CFR 1926.1108 bis-Chloromethyl ether**

- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to {a} The nature of the carcinogenic hazards of bis-chloromethyl ether, including local and systemic toxicity; {b} The specific nature of the operation involving bis-chloromethyl ether which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of bis-chloromethyl ether; {h} The purpose for and application of specific first aid procedures and practices; {i} A review of this section at the employee's first training and indoctrination program and annually thereafter.
- C **Emergency procedures** - shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.
- C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

**29 CFR 1910.1009, 29 CFR 1915.1009, 29 CFR 1926.1109 beta-Naphthylamine,**

- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to {a} The nature of the carcinogenic hazards of beta-Naphthylamine, including local and systemic toxicity; {b} The specific nature of the operation involving beta-Naphthylamine which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of beta-Naphthylamine; {h} The purpose for and application of specific first aid procedures and practices; {i} A review of this section at the employee's first training and indoctrination program and annually



thereafter.

- C **Emergency procedures** - shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.
- C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

#### **29 CFR 1910.1010, 29 CFR 1915.1010, 29 CFR 1926.1110 Benzidine**

- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to {a} The nature of the carcinogenic hazards of benzidine, including local and systemic toxicity; {b} The specific nature of the operation involving benzidine which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of benzidine; {h} The purpose for and application of specific first aid procedures and practices; {i} A review of this section at the employee's first training and indoctrination program and annually thereafter.
- C **Emergency procedures** - shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.
- C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

#### **29 CFR 1910.1011, 29 CFR 1915.1011, 29 CFR 1026.1111 4-Aminodiphenyl**

- C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program

including, but not necessarily limited to {a} The nature of the carcinogenic hazards of 4-Aminodiphenyl, including local and systemic toxicity; {b} The specific nature of the operation involving 4-Aminodiphenyl which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 4-Aminodiphenyl; {h} The purpose for and application of specific first aid procedures and practices; {i} A review of this section at the employee's first training and indoctrination program and annually thereafter.

C **Emergency procedures** - shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

**29 CFR 1910.1004, 29 CFR 1915.1004, 29 CFR 1926.1104    alpha- Naphthylamine**

C **Training and indoctrination** - Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to {a} The nature of the carcinogenic hazards of alpha-Naphthylamine, including local and systemic toxicity; {b} The specific nature of the operation involving alpha-Naphthylamine which could result in exposure; {c} The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination; {d} The purpose for and application of decontamination practices and purposes; {e} The purpose for and significance of emergency practices and procedures; {f} The employee's specific role in emergency procedures; {g} Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of alpha-Naphthylamine; {h} The purpose for and application of specific first aid procedures and practices; {i} A review of this section at the employee's first training and indoctrination program and annually thereafter.

- C **Emergency procedures** - shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.
- C **Medical surveillance program** - At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

**29 CFR 1910.1029, 29 CFR 1915.1029, 29 CFR 1926.1129 Coke oven emissions**

- C **Inspection system and corrective action program** - to control door emissions to the maximum extent possible.
- C **Compliance program** - Each employer shall establish and implement a written program to reduce exposures solely by means of the engineering and work practice controls required in paragraph (f) of this section. The written program shall include at least the following:
  - (1) A description of each coke oven operation by battery, including work force and operating crew, coking time, operating procedures and maintenance practices;
  - (2) Engineering plans and other studies used to determine the controls for the coke battery;
  - (3) A report of the technology considered in meeting the permissible exposure limit;
  - (4) Monitoring data obtained in accordance with paragraph (e) of this section;
  - (5) A detailed schedule for the implementation of the engineering and work practice controls required in paragraph (f) of this section; and
  - (6) Other relevant information.
- C **Respirator program.** The employer shall institute a respiratory protection program in accordance with 1910.134 of this part.
- C **Medical surveillance program** - Each employer shall institute a medical surveillance program for all employees who are employed in a regulated area at least 30 days per year.

- C **Training program** - The employer shall institute a training program for employees who are employed in the regulated area and shall assure their participation. The training program shall include informing each employee of {a} The information contained in the substance information sheet for coke oven emissions (Appendix A); {b} The purpose, proper use, and limitations of respiratory protective devices required in accordance with paragraph (g) of this section; {c} The purpose for and a description of the medical surveillance program required by paragraph (j) of this section including information on the occupational safety and health hazards associated with exposure to coke oven emissions; {d} A review of all written procedures and schedules required under paragraph (f) of this section; and {e} A review of this standard.