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FINAL REPORT-PART B
Section 1

INDUSTRIAL SECURITY IN TUNISIA: PRESENT RULES, PRESENT NEEDS, PROPOSALS FOR CHANGE

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Report: Precis

This Report, Part 1, surveys all available existing laws, decrees, orders and circular notes promulgated by Tunisian authorities concerning industrial security which, as used herein, means security of industrial plants and machinery, including prevention and control of fire, and workers security and health, in an effort to assess present status, present problems and present and future needs. Suggestions of gaps and proposals for change are offered, together with a suggested list of priorities. There is then a detailed analysis of each of the existing laws, orders, decrees and notes on which the overall analysis was based. Overall approaches to resolution of these problems in U.S. and French practise are briefly suggested as well in the next section. A detailed Part 2 follows which includes standards and approaches to standards under U.S. law for the major problems surveyed in this report for possible use in future Tunisian legislation. Many suggestions in Part 1 are keyed in to this Part 2.

Section 1 - The Report

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Section 1 - The Report

I. The Existing Regime in Tunisia:

A. In General:

Within the Ministry of the National Economy, there is an obligation to classify and issue permits for all industry and to assure the acceptable performance of all industrial equipment (as well as to regulate and control pollution in and from industrial establishments).

In the actual laws, decrees, orders and circular notes now in place in Tunisia,* those relating to industrial hazards rarely mention worker

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*The materials surveyed for this Report concerning industrial security and worker safety and health are:

1. French Decree of 2 April 1926 on regulation of steam boilers on which the Tunisian Decree of 25 October 1932 (below) is based;
2. Decree of 25 October 1932 regulating land based steam boilers and engines;
3. Decree of December 1955 modifying the Decree of 1932;
4. Order of 18 April 1955 regulating the construction and management of hydrocarbon storage areas;
5. Decree of 12 July 1956 regulating machinery, etc. using gas under pressure;
6. Order of 14 December 1956 further regulating machines, etc. for the production, etc., of gases under pressure, liquified, etc. (as per the decree of 12 July 1956);
7. Order of 24 May 1957 regulating use of certain materials in construction or repair of steam boilers and machines using gas pressure;
8. Decree of 28 March 1968 on Establishments which are Dangerous, Unhealthy, or "Unpleasant";
9. Labor Code (1966) on Dangerous, Unhealthy and "Unpleasant" Establishments (especially Articles 293-324);
10. Order of 26 July 1968 (France) on electrical installations;
11. Decree of 10 June 1969 (France) on record keeping for installations using steam boilers, etc.;
12. Proposal for Order concerning liquified gas.
13. Notes Circulaires of 23 April 1981 on tests of steam boilers and gas pressure apparatus; on repair of gas cylinders; on controls for new equipment; on protection of dangerous materials (13 February 1978); security of all types in all enterprises (10 June 1976); fire prevention (24 February 1977).

security and health as such. It is, rather, assumed that the approach should be premarily, perhaps exclusively, by searching for safer machinery, safer tools, and better protected workplaces.

Coverage and Adequacy of the Existing Legal Regime.

1. The Role of MNE:

Following the pattern of French law, Tunisian law provides for the classification of all establishments which are causes of danger or major inconvenience not only to the neighborhood and to public health but also to the security, well being and health of their personnel (Labor Code, Art. 293). Such classified establishments can open and operate only with governmental approval (Labor Code, Art. 296). Such establishments are subject to inspection and oversight (Labor Code, Art. 303) by proper agents who must be permitted entrance. Non-compliance can load to suspension of operations (Labor Code, Art. 304). Non-classified establishments presenting dangers to the neighborhood or to public health can also be made to take measures to remove the danger (Labor Code, Art. 305. Worker safety, etc. is not mentioned in this Article). Where danger is imminent, government agents can immediately take measures to stop the danger, using local authorities where needed (Labor Code, Art. 306), and no indemnities need be paid to establishments which are made to comply with needed measures (Labor Code, Art. 309). Violations and/or interference with inspections can lead to hearings, fines (which are very small), and imprisonment (Labor Code, Arts. 320-324). By decree of 28 March 1968 concerning these classified industries, it is required that the establishment furnish plans showing not only where it will be located and its methods of operation but also plans showing locations of machinery, boilers, motors, reservoirs, cisters, spetic tanks, work areas, sanitary facilities of all kinds,

place for medical services, ways and place for treatment of residuary waters, wastes, residues, and other matters, depending on the nature of the industry (Article 1). The coverage is broad leaving it possible to make demands of the entrepreneur on an individualized basis. Specific standards are not included. The need for in-plant security and protection of the safety and health of the workers is mentioned specifically only in Labor Code, Article 293. It is also mentioned in some of the Circular Notes, set out above, and is to some degree within the jurisdiction of the Labor Inspectors, rather than the MNE. However, I believe that, in its role under specific laws, decrees, and orders, the MNE, as general controller of industry, may be and should be interested in setting some industry-wide patterns in the areas of safety of workers and property and health within the classified and other establishments.

This analysis is not intended to suggest that appropriate Ministries of the Tunisian Government, including MNE, are not now enforcing measures of these kinds. However, to the extent that such rules are not now uniformly understood and applied to all industrial establishments, classified or not, it is thought that the analysis in this Report, with illustrations, might be of some use in the creation of orders, notes, decrees or laws in the future. As noted above, authority to issue uniform rules appears already to exist, for example, under the laws and decrees concerning the classification of industries (especially Decree 68-88 of 28 March 1968 and Law 66-27 of 30 April 1966, promulgating the Labor Code, especially Articles 293 to 324).

2. The Area of Specific Rules:

Specific laws and/or regulations of Tunisia deal with the safe operation of electrical generators, boilers and steam generators, pressurized gas and its containers, liquified gas containers, and the control of the risks of fire in and from industrial establishments. Supervision and control are thus established not only for the safety of the public in general but also for the health and safety of the workers in classified establishments. Since it can be assumed that all citizens will benefit from increased productivity, and that the workers and the economy will benefit overall from safe, clean, relatively accident-free work environments, safety and health conditions within an industrial establishment are both the work of labor and public health authorities and must come under the jurisdiction of the officials supervising the control and operation of industrial facilities.

There are three principal areas of concern at this time: One, for problem areas where present rules exist, the rules are presumptively, in most cases, out of date or at least need technical study to see if they need updating, revision or replacement. Second, there are areas of industry which are not dealt with at all by specific present rules. Third, there are few rules creating uniform standards for practises relating to industrial and worker security in all workplaces.

a) While detailed analysis of certain decrees, etc. is left for Section D, hereafter, Tunisian regulation of most of the areas where specific rules exist at all was adopted on average no more recently than the 1950's. Thus, regulation of boilers and steam engines on land is largely by a decree of 1932, based on a French decree of 1926 which, in fact, was

based on rules of 1856, 1865, and 1880, some hundred years ago. The Tunisian decree of 1932 was modified somewhat by a decree of 1955 but that is nearly thirty years ago.

This long passage of time in an era of rapidly changing technology, and changing uses, fuels, etc. makes it likely that a technical review is necessary to see if changes are needed in the rules to make them adequate for safe construction and use of steam engines, boilers and the like. Standards change as materials and uses change. In several cases herein discussed, fines and prison terms are made possible. Here too, thirty years have gone by; revision is necessary if these are to be meaningful.

b) A second area is that of gas under pressure and its containers and storage. A decree of 12 July 1956 regulates machinery, etc., using gas under pressure. An Order of December 1956 further regulates the subject of the decree of July 1956. Materials used in the construction or repair of machines using gas under pressure are regulated by order of 24 May 1957, and Circular Notes of 23 April 1981 on testing and on repairs also deal with compressed gas and equipment for its use. Once again, the basic rules date from the mid-1950's and a technical review of their adequacy for workplace and worker safety should be conducted. Some indicaton of the importance of these potentially dangerous materials is found in the special rules for dealing with them in United States law. The basic list of standards for compressed gases is found, for example, in standards 1910.101 through 1910.105 and especially 1910.166-1910.171 on compressed gas and compressed gas equipment. For the list, see Part 2 of this Report, at page 1. An analysis of US adopted standards for compressed gases and compressed gas equipment is in Part 2, pages 34-37 and 53-54. Further

materials on standards exist. In any event, Tunisian rules need to be reviewed to see if they meet present requirements for security of personnel and equipment.

c) A third area is the construction and management of hydrocarbon storage areas, regulated by Order of 18 April 1955 and liquified gas storage areas. For liquified gas, a proposal for order, dated 1978, is in existence which seems to be up-to-date and quite comprehensive in its requirements. Without such an order, rules again date back to the 1950's and much more is now known and known to be needed. The proposed order is discussed further below in Section D. Since it too is now five years old, if it meets all present needs, perhaps it could be moved forward. For comparison, the US standard for storage and handling of liquified petroleum gases is 1910.110, (see list, Part 2, page 1). The specific contents of the proposed order and its annex are discussed below in Section D. Even here, as discussed above, further rules for worker safety could be included.

d) The problems involved in use of electrical equipment and in electrical installations are touched on by a French decree of 26 July 1968, reported to be in effect in Tunisia, although its terms are not embodied in a Tunisian decree. This subject involves many kinds of risks and dangers to enterprises and personnel and is barely touched on by the decree mentioned. Standards and controls for electrical installations, machinery, etc. appear to be presently necessary and I have seen no actual Tunisian rules on the subject. This should be reviewed by MNE technicians and uniform standards applicable to all uses of electricity in the workplace and to use of electrical machinery in particular could be set. Safeguards could be required on new equipment, made in Tunisia or imported,

and existing machines, power tools and enterprises could be brought into compliance. Electrical standards are referred to in U.S. law Sections 1910.308-309 (see list, Part 2, page 2).

e) Circular Notes call for protection of and from dangerous materials (13 February 1978), security of all types in all enterprises (10 June 1976) and fire prevention procedures (24 February 1977). These matters are of great importance and will be considered together here because there are not available specific Tunisian rules concerning them. The Notes make general demands leaving it to enterprises to comply.

f) Suggestions;

I understand that under Tunisian practise, with respect to safety and security of enterprises and security and health of workers, there are "overlaps" between the role of MNE, the ministry dealing with labor, and perhaps others. I believe, however, that in its concern with safe workplaces, and as charged by Decree of 28 March 1968 and by Articles 293-324 of the Labor Code of 1966, all on Dangerous and Unhealthy Establishments, as discussed above, the MNE could set standards to avoid dangerous machines and workplaces which would apply to a specific danger, as, for example, compressed gas machinery but also to a whole class of machines, or types of danger, or personal risk. For example, all types of machines could be required to be guarded, as specified by MNE, and this could be made a requirement to be met for importing any machine, or for putting any machine, new or rebuilt, into use. It would be useful also to standardize, for all enterprises, rules for such things as signs and warnings of danger, for noise limits, for firefighting equipment, for all kinds of toxic and hazardous substances, for handling combustible materials, for personal

protective equipment, for sanitary facilities, for safety of enterprise floors, ladders, exits, etc. This is a very large list and other things might be standardized as well. The lists and discussions are intended only to be suggestive but represent areas which, to me, appear to be within the power of MNE under present overall law and application of authority, even though other Ministries and agencies may also be concerned.

By mere passage of time, it appears that technical reappraisal of the rules for safety of establishments and workers should be made now to see if existing rules are adequate.

I have been advised that, for these rules and others, certification, inspection and reinspection are presently being thoroughly carried out by authorized agents of the MNE, and arrangements between those charged with these duties and the customs service, under which newly imported equipment is reported, and is therefore available to be inspected, are reported to be satisfactory. A circular Note of 27 April 1981 from the Minister of National Economy reinforces the rules requiring inspections and tests before machinery for steam generation (and compressed gas) is placed in operation. On 10 June 1969, France promulgated a decree requiring that a record book be kept for steam generators and other similar heating units showing performance, problems, etc. If, as is reported to be the case, Tunisia is now following this practice as well, it would appear to be useful to embody it in a decree or at least a Circular Note.

B. Action:

Whatever MNE chooses to control I believe that much could be done by Notes with some Orders and Decrees where needed for visibility or extended authority. First, all existing laws, decrees and orders should be reviewed and revised, where needed, to meet highest current standards.

Second, industry-wide standards can be promulgated in areas such as guarding machinery, safe electrical procedures, noise, etc. Third, in licensing new facilities, these requirements for safety (electrical, machinery, exits, sanitary facilities, pollution control, etc., etc.) could all be made part of the basic requirement for approval of a classified establishment. Fourth, all imported machinery, equipment, devices, tools, etc. could be refused entry if they failed to meet requirements, as is now true for boilers, compressed gas equipment, etc. Fifth, existing enterprises could be brought into compliance through inspection and re-inspection.

Cooperation would be stressed under the terms of the Prime Minister's Circular Note calling for assurance of worker and plant safety. Eventually, fines and even prison terms might be imposed for repeated refusals to comply. Since all citizens and the nation will benefit from increased productivity, and the workers and the economy will benefit overall from safe, clean, relatively accident-free and health risk-free work environments, safety and health rules should gain the support of the unions and of the enterprises on a largely cooperative basis, once clear rules are established. Safety and health conditions within industry thus are the work of the enterprises, the workers, the unions, public health authorities, labor authorities and the MNE.

C. Analogies:

Specific areas, among many, where general rules and standards should be considered, over time, with citations to relevant materials in Part 2 of this Report include:

a) Guarding Requirements for all machinery: See Part 2, pages 55-67, 93-99 (with diagrams)

b) Fire Protection and Defense: See Part 2, pages 50-52, 68-80, 87-92, 142 (fire extinguishers by class, placement, need)

c) Factory conditions: walking and working surfaces, ladders, exits: See Part 2, pages 22-28

d) Special equipment for welding, cutting: See Part 2, pages 68-80

e) Personal protective equipment-head, eyes, lungs, feet, hand etc.: See Part 2, pages 38-41, 100-103, 212-218

f) Noise: See Part 2, pages 104-113, 202-209

g) Standard signs, markings, signals: See Part 2, pages 46-48, 113-115, 184-196

h) Air Contaminents, Ventilation: See Part 2, pages 31-33

i) As noted already, compressed gases, compressed gas equipment: See Part 2, pages 34-37, 53-54

j) Sanitation: See Part 2, pages 42-46

As we have seen, MNE could enforce any or all of these requirements by: original licensing of classified establishments, licensing of new, rebuilt or repaired imported or domestic machines, tools, etc., inspection of workplaces and machines, educational programs for management and labor on safety and, therefore, greater productivity, etc.

D. Note: The Rules Concerning Specific Hazards

1. Boilers and Steam Engines (Appareils à Vapeur) on Land.

Legislation in France concerning the need for public security, combined with an eye to the needs of industry, goes back to

French rules of 21 July 1856, 25 January 1865 and 30 April 1880. The French decree of 2 April 1926, is largely reproduced in a Tunisian decree of 25 October 1932, which also adds a number of additional articles. The Tunisian decree limits to some degree the use of certain materials in construction and repair, requires inspection and testing before use, retesting periodically and after repairs, changes, etc., provides for the type of testing to be used, written permissible limits to pressure to be placed on the heating unit, an identity plaque showing when and by whom made, the need for safety valves and pressure indicators, water level indicators, limits on size and dimensions of pipes, tubes, etc., ventilation, and the like. Some rules for electric furnaces are included as well. As to placement, boilers, etc. are categorized by intensity of steam generated and, therefore, of risk. The most dangerous must be away from homes and public buildings; others must offer protection to workers and others by specified walls. Movable steam generators are also included.

Articles 44-45 provide for special investigations and reports in the event of an accident involving death or wounding and for leaving the site of an explosion untouched and available for observation. Fines, etc. are provided for in Title VI but, as listed in the decree, are of course out of date.

By decree of 8 December 1955, some provisions of the decree of 1932 were updated to accord with increased Tunisian capabilities but the basic approach remained the same. The emphasis is on general safety; worker health and safety are not directly dealt with. In view of the

nearly thirty years since the decree of 1955, as noted above, expert reanalysis of the adequacy of the technical provisions would appear to be necessary.

2. Production of equipment for use, etc. of compressed gases of all types.

A decree of 12 July 1956 and an order of 14 December 1956 define and regulate the means of production and distribution of machines using compressed gas, materials used to contain the gas, etc. Standards are given for containers designed to resist the pressure both as to type of materials used for construction, size, proof of compliance, periodic inspection, resistance to corrosion, markings, testing etc. Some standards are set precisely with numbers; others are set in general terms (for example "openings large enough and well placed to permit interior cleaning and removal of condensations" (Art. 6(1) of 14 December 1956). Special provisions call for inspections and reports of explosions, especially where death or serious wounding occurs. "Dangerous" apparatus is to be taken out of service. No specific provisions concern worker health or safety. An order of 24 May 1957 limits with some specificity the use of certain materials, at least in certain places, in building or repairing this type of device and provides for tests of such equipment. (A form Circular Note, undated, advises all of special rules concerning rebuilt gas bottles). Again, as stated previously technical updating of the formally specified requirements should probably be done after almost thirty years.

3. Storage of hydrocarbons:

An order of 18 April 1955 provides rules for constructing and managing hydrocarbon storage areas, including flamable liquids in general.

Classifications are based on degrees of inflamability and rules cover the type and placement of permissible reservoirs, construction materials, permissible location of electrical equipment and equipment using flames of any sort (for example, a furnace). The order is comprehensive and explicit for the many things it covers. It provides for general safety and security of the public; it does not include special rules governing worker conduct and safety. Once again, since it is now 28 years old, a technical review designed to see if modification of any sort is needed would seem to be appropriate (for example, it might be useful to include further rules concerning fire prevention, action if fire occurs, protective equipment for workers, etc.). (Liquified combustible gas is covered in the next section.)

4. Liquified, combustible gas.

A projected order, drafted in 1978, provides for the technical rules for installing and managing the storage of liquified combustible gases, with an Annex concerning transportation of such gases by pipeline, etc. The proposed order contains 13 pages and 46 articles; the Annex has 25 pages and 47 articles. The proposed order and annex are very detailed in order to provide for safe storage, transportation and handling of this potentially dangerous commodity. Standards are set for all users and builders of facilities. It is beyond the scope of my competence to comment on the technical details but the proposed order and annex provide for more precise rules in writing than has normally been the case with industrial controls in the past. They cover, among other things: the need for licensing, prescriptions for proofs, type of construction, placement, methods of storage, permissible materials for containers,

limits on electrical materials in the vicinity, methods of use, protection against fire, limits on proximity (closeness) to buildings, etc., control of persons who can handle or be near the materials, construction materials, testing, rules for periodic inspection, including, for example, the requirement for gas detectors in visits to storage areas in order to prevent danger to personnel. The overall system seems to be very comprehensive, very up-to-date, and very protective of public safety and security. It sets standards for this entire segment of a potentially dangerous industry. With the exception noted above of use of gas detectors to protect inspection personnel, no special rules are included for the special problem of the health and safety of concerned workers - protective clothing, "hard hats", respirators or the like.

5. Other Matters:

By Circular Note of 10 June 1976 the Prime Minister called on all chiefs of enterprise to assure the security of workers and installations in all work places by providing for means for signalling all kinds of danger, installation of fire extinguishers, use of insurance against risks, safeguarding plants and materials, regulating entry into workshops, and working with other authorities in case of fire. Work Inspectors were required to fully enforce hygiene and security rules in all workplaces. No specifics were set out. Again, it seems appropriate for more specific standards to be set for all classified industries, industry-wide, by those charged with licensing and controlling the classified industries from the point of view of safety and protection of workers, machines and goods.

By note of 24 February 1977, the Minister of the National Economy called for special measures against fire.: alarm systems, fire-fighting equipment in accordance with the needs of the enterprise, trained personnel, training, testing of fire-fighting equipment, practice drills, designated control personnel, etc. Once again, the prescriptions are general; suggestions for more detailed, overall requirements are described hereafter in Part 2 of this Report.

A note of 13 February 1978 of the Prime Minister restated the need for informed personnel to safeguard all material, especially dangerous products (acids, explosives, combustibles, etc.), to control stocks of such products carefully, and to have fire control personnel, drills and fire control equipment. The prescriptions are equally general.

II. Occupational Security, Safety and Health: U.S.A.; France - A Note on General Approaches:

In analysing the existing Tunisian regime for industrial safety and occupational safety and health and suggesting changes, there is an important distinction to be observed between the models offered by the United States and France which will be noted here.

A. The United States Approach:

1. Under the Occupational Safety and Health Act (Public Law 91-596, 29 U.S.C. 651 et seq., enacted in 1979, hereinafter "OSHA"), a general duty is placed on almost all employers to provide a job environment free from recognized hazards which cause harm or are likely to cause death or serious injury. (Its purpose is "to assure so far as possible every working man and woman safe and healthful working conditions.") A copy of the Act is attached as Appendix I.

2. A comprehensive set of safety and operating standards applicable to any and all work places (with a few stated exemptions) has been developed which employers must know and comply with at all times. These are extremely detailed. Two sets of standards exist: one for all workplaces except construction, the other for construction. They cover, among many: tools, machinery, ladders, sanitary facilities, acceptable noise levels, signs, combustible materials, fire hazards, tolerable levels of pollutants of all kinds, siting and control of electrical outlets and wiring, exits [note that temporary and permanent variances can be granted on special showings]. Specific use has been made of examples where they are of potential interest in so far as Tunisia

chooses to expand further its existing regime for health and security in industry.

3. The system provides for inspections, reporting, investigation cooperation between management and unions. Inspections can be unannounced and routine, or following a fatality or major accident, or after an employee complaint, or as a follow-up.

4. The system focuses first on the education of management and workers and on voluntary compliance. It provides also for fines of varying amounts, orders to refurbish equipment or facilities, imprisonment, closing of facilities.

B. The approach in France:

1. There is no general duty clause applicable to owners and managers of facilities.

2. Over 1500 pages of specific regulations on safety and health exist covering such areas as cleanliness, ventilation, heating, lighting, meals, drinks, toilets, fire, accidents. A health and safety committee must be formed in all industrial facilities with 50 or more employees and in all businesses with over 300 employees.

3. Inspections are made by the Labor Inspector. The Inspector can bring non-compliers to court. Civil fines and/or imprisonment can be assessed.

C. Note: Work Injury - (U.S. "Workman's Compensation"):

Both the laws of France and the United States provide compensation for workers injured or made sick on the job and for payments to the dependents of workers killed at work. It is understood that this

form of compensation is normally part of a larger program of social security and would not be administered by an agency charged with the control of industry. Nevertheless, there is one direct link which causes employers to be concerned with industrial safety.

In both France and the United States, payments to injured and ill workers and to the families of killed workers come from a compulsory insurance program paid for by the employers. The amount paid each year by the employer (the "premium") depends on his safety (claims) record for a previous period - the more accidents, sickness, deaths, the higher the annual payment to the insurance fund and, therefore the lower his profits. In the United States, the insurance companies in this field also provide inspections and guidance as to safe conditions in the workplace. Therefore a manager will have an interest in safety; the safer the factory, the less the insurance.

In France, the first law was in 1898. The system covers about 70% of employees with special systems for mining, agriculture, railroads, public utilities, sailors, etc. The employer pays the entire cost, with contributions depending on risk. The contributions average .035% of payroll. All workers in insured enterprises are covered from the moment they begin work. Permanently totally disabled persons with work injuries can receive 100% of average earnings for the previous 12 months with minimum and maximum limits. Partly disabled persons receive amounts based on degree of disability. All necessary medical care is provided. Widows, widowers, orphans and other dependents of a killed worker receive varying percentages of the worker's earnings for periods varying with the recipient. It can reach as high as 85% of the deceased worker's earnings.

OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

(P.L. 91-596, 91st Congress, S 2193, December 29, 1970, effective April 28, 1971, as amended by P.L. 93-237 January 2, 1974)

AN ACT to assure safe and healthful working conditions for working men and women; by authorizing enforcement of the standards developed under the Act; by assisting and encouraging the States in their efforts to assure safe and healthful working conditions; by providing for research, information, education, and training in the field of occupational safety and health; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Occupational Safety and Health Act of 1970."

CONGRESSIONAL FINDINGS AND PURPOSE

Sec. (2) The Congress finds that personal injuries and illnesses arising out of work situations impose a substantial burden upon, and are a hindrance to, interstate commerce in terms of lost production, wage loss, medical expenses, and disability compensation payments.

(b) The Congress declares it to be its purpose and policy, through the exercise of its powers to regulate commerce among the several States and with foreign nations and to provide for the general welfare, to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources–

(1) by encouraging employers and employees in their efforts to reduce the number of occupational safety and health hazards at their places of employment, and to stimulate employers and employees to institute new and to perfect existing programs for providing safe and healthful working conditions;

(2) by providing that employers and employees have separate but dependent responsibilities and rights with respect to achieving safe and healthful working conditions;

(3) by authorizing the Secretary of Labor to set mandatory occupational safety and health standards applicable to businesses affecting interstate commerce, and by creating an Occupational Safety and Health Review Commission for carrying out adjudicatory functions under the Act;

(4) by building upon advances already made through employer and employee initiative for providing safe and healthful working conditions;

(5) by providing for research in the field of occupational safety and health, including the psychological factors involved, and by developing innovative methods, techniques, and approaches for dealing with occupational safety and health problems;

(6) by exploring ways to discover latent diseases, establishing causal connections between diseases and work in environmental conditions, and conducting other research relating to health problems, in recognition of the fact that occupational health standards present problems often different from those involved in occupational safety;

(7) by providing medical criteria which will assure insofar as practicable that no employee will suffer diminished health, functional capacity, or life expectancy as a result of his work experience;

(8) by providing for training programs to increase the number and competence of personnel engaged in the field of occupational safety and health;

(9) by providing for the development and promulgation of occupational safety and health standards;

(10) by providing an effective enforcement program which shall include a prohibition against giving advance notice of any inspection and sanctions for any individual violating this prohibition;

(11) by encouraging the States to assume the fullest responsibility for the administration and enforcement of their occupational safety and health laws by providing grants to the States to assist in identifying their needs and responsibilities in the area of occupational safety and health, to develop plans in accordance with the provisions of this Act, to improve the administration and enforcement of State occupational safety and health laws, and to conduct experimental and demonstration projects in connection therewith;

(12) by providing for appropriate reporting procedures with respect to occupational safety and health which procedures will help achieve the objectives of this Act and accurately describe the nature of the occupational safety and health problem;

(13) by encouraging joint labor-management efforts to reduce injuries and disease arising out of employment.

DEFINITIONS

Sec. 3. For the purposes of this Act–

(1) The term "Secretary" mean the Secretary of Labor.

(2) The term "Commission" means the Occupational Safety and Health Review Commission established under this Act.

(3) The term "commerce" means trade, traffic, commerce, transportation, or communication among the several States, or between a State and any place outside thereof, or within the District of Columbia, or a possession of the United States (other than the Trust Territory of the Pacific Islands), or between points in the same State but through a point outside thereof.

(4) The term "person" means one or more individuals, partnerships, associations, corporations, business trusts, legal representatives, or any organized group of persons.

(5) The term "employer" means a person engaged in a business affecting commerce who has employees, but does not include the United States or any State or political subdivision of a State.

(6) The term "employee" means an employee of an employer who is employed in a business of his employer which affects commerce.

(7) The term "State" includes a State of the United States, the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam, and the Trust Territory of the Pacific Islands.

(8) The term "occupational safety and health standard" means a standard which requires conditions, or the adoption or use of one or more practices, means, methods, operations, or processes, reasonably necessary or appropriate to provide safe or healthful employment and places of employment.

(9) The term "national consensus standard" means any occupational safety and health standard or modification thereof which (1), has been adopted and promulgated by a nationally recognized standards-producing organization under procedures whereby it can be determined by the Secretary that persons interested and affected by the scope or provisions of the standard have reached substantial agreement on its adoption, (2) was formulated in a manner which afforded an opportunity for diverse views to be considered and (3) has been designated as such a standard by the Secretary, after consultation with other appropriate Federal agencies.

(10) The term "established Federal standard" means any operative occupational safety and health standard established by any agency of the United States and presently in effect, or contained in any Act of Congress in force on the date of enactment of this Act.

(11) The term "Committee" means the National Advisory Committee on Occupational Safety and Health established under this Act.

(12) The term "Director" means the Director of the National Institute for Occupational Safety and Health.

(13) The term "Institute" means the National Institute for Occupational Safety and Health established under this Act.

(14) The term "Workmen's Compensation Commission" means the National Commission on State Workmen's Compensation Laws established under this Act.

APPLICABILITY OF THIS ACT

Sec. 4. (a) This Act shall apply with respect to employment performed in a workplace in a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, Guam, the Trust Territory of the Pacific Islands, Wake Island, Outer Continental Shelf lands defined in the Outer Continental Shelf Lands Act, Johnston Island, and the Canal Zone. The Secretary of the Interior shall, by regulation, provide for judicial enforcement of this Act by the courts established for areas in which there are no United States district courts having jurisdiction.

(b) (1) Nothing in this Act shall apply to working conditions of employees with respect to which other Federal agencies, and State agencies acting under section 274 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2021), exercise statutory authority to prescribe or enforce standards or regulations affecting occupational safety or health.

(2) The safety and health standards promulgated under the Act of June 30, 1936, commonly known as the Walsh-Healey Act (41 U.S.C. 35 et seq.), the Service Contract Act of 1965 (41 U.S.C. 351 et seq.), Public Law 91-54, Act of August 9, 1969 (40 U.S.C. 333), Public Law 85-742, Act of August 23, 1958 (33 U.S.C. 941), and the National Foundation on Arts and Humanities Act (20 U.S.C. 951 et seq.) are superseded on the effective date of corresponding standards, promulgated under this Act, which are determined by the Secretary to be more effective. Standards issued under the laws listed in this paragraph and in effect on or after the effective date of this Act shall be deemed to be occupational safety and health standards issued under this Act, as well as under such other Acts.

(3) The Secretary shall, within three years after the effective date of this Act, report to the Congress his recommendations for legislation to avoid unnecessary duplication and to achieve coordination between this Act and other Federal laws.

(4) Nothing in this Act shall be construed to supersede or in any manner affect any workmen's compensation law or to enlarge or diminish or affect in any other manner the common law or statutory rights, duties, or liabilities of employers and employees under any law with respect to injuries, diseases, or death of employees arising out of, or in the course of, employment.

DUTIES

Sec. 5. (a) Each employer—

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Sec. 6. (a) Without regard to chapter 5 of title 5, United States Code, or to the other subsections of this section, the Secretary shall, as soon as practicable during the period beginning with the effective date of this Act and ending two years after such date, by rule promulgate as an occupational safety or health standard any national consensus standard, and any established Federal standard, unless he determines that the promulgation of such a standard would not result in improved safety or health for specifically designated employees. In the event of conflict among any such standards, the Secretary shall promulgate the standard which assures the greatest protection of the safety or health of the affected employees.

(b) The Secretary may by rule promulgate, modify, or revoke any occupational safety or health standard in the following manner:

(1) Whenever the Secretary, upon the basis of information submitted to him in writing by an interested person, a representative of any organization of employers or employees, a nationally recognized standards-producing organization, the Secretary of Health, Education, and Welfare, the National Institute for Occupational Safety and Health, or a State or political subdivision, or on the basis of information developed by the Secretary or otherwise available to him, determines that a rule should be promulgated in order to serve the objectives of this Act, the Secretary may request the recommendations of an advisory committee appointed under section 7 of this Act. The Secretary shall provide such an advisory committee with any proposals of his own or of the Secretary of Health, Education, and Welfare, together with all pertinent factual information developed by the Secretary or the Secretary of Health, Education, and Welfare, or otherwise available, including the results of research, demonstrations, and experiments. An advisory committee shall submit to the Secretary its recommendations regarding the rule to be promulgated within ninety days from the date of its appointment or within such longer or shorter period as may be prescribed by the Secretary, but in no event for a period which is longer than two hundred and seventy days.

(2) The Secretary shall publish a proposed rule promulgating, modifying, or revoking an occupational safety or health standard in the Federal Register and shall afford interested persons a period of thirty days after publication to submit written data or comments. Where an advisory committee is appointed and the Secretary determines that a rule should be issued, he shall publish the proposed rule within sixty days after the submission of the advisory committee's recommendations or the expiration of the period prescribed by the Secretary for such submission.

(3) On or before the last day of the period provided for the submission of written data or comments under paragraph (2), any interested person may file with the Secretary written objections to the proposed rule, stating the grounds therefor and requesting a public hearing on such objections. Within thirty days after the last day for filing such objections, the Secretary shall publish in the Federal Register a notice specifying the occupational safety or health standard to which objections have been filed and a hearing requested, and specifying a time and place for such hearing.

(4) Within sixty days after the expiration of the period provided for the submission of written data or comments under paragraph (2), or within sixty days after the completion of any hearing held under paragraph (3), the Secretary shall issue a rule promulgating, modifying, or revoking an occupational safety or health standard or make a determination that a rule should not be issued. Such a rule may contain a provision delaying its effective date for such period (not in excess of ninety days) as the Secretary determines may be necessary to insure that affected employers and employees will be informed of the existence of the standard and of its terms and that employers affected are given an opportunity to familiarize themselves and their employees with the existence of the requirements of the standard.

(5) The Secretary, in promulgating standards dealing with toxic materials or harmful physical agents under this subsection, shall set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity even if such employee has regular exposure to the hazard dealt with by such standard for the period of his working life. Development of standards under this subsection shall be based upon research, demonstrations, experiments, and such other information as may be appropriate. In addition to the attainment of the highest degree of health and safety protection for the employee, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws. Whenever practicable, the standard promulgated shall be expressed in terms of objective criteria and of the performance desired.

(6) (A) Any employer may apply to the Secretary for a temporary order granting a variance from a standard or any provision thereof promulgated under this section. Such temporary order shall be granted only if the employer files an application which meets the requirements of clause (B) and establishes that (i) he is unable to comply with a standard by its effective date because of unavailability of professional or technical personnel or of materials and equipment needed to come into compliance with the standard or because necessary construction or alteration of facilities cannot be completed by the effective date, (ii) he is taking all available steps to safeguard his employees against the hazards covered by the standard, and (iii) he has an effective program for coming into compliance with the standard as quickly as practicable. Any temporary order issued under this paragraph shall prescribe the practices, means, methods, operations, and processes which the employer must adopt and use while the order is in effect and state in detail his program for coming into compliance with the standard. Such a temporary order may be granted only after notice to employees and an opportunity for a hearing: *Provided*, That the Secretary may issue one interim order to be effective until a decision is made on the basis of the hearing. No temporary order may be in effect for longer than the period needed by the employer to achieve compliance with the standard or one year, whichever is shorter, except that such an order may be renewed not more than twice (I) so long as the requirements of this paragraph are met and (II) if an application for renewal is filed at least 90 days prior to the expiration date of the order. No interim renewal of an order may remain in effect for longer than 180 days.

(B) An application for a temporary order under this paragraph (6) shall contain:

(i) a specification of the standard or portion thereof from which the employer seeks a variance,

(ii) a representation by the employer, supported by representations from qualified persons having firsthand knowledge of the facts represented, that he is unable to comply with the standard or portion thereof and a detailed statement of the reasons therefor,

(iii) a statement of the steps he has taken and will take (with specific dates) to protect employees against the hazard covered by the standard,

(iv) a statement of when he expects to be able to comply with the standards and what steps he has taken and what steps he will take (with dates specified) to come into compliance with the standard, and

(v) a certification that he has informed his employees of the application by giving a copy thereof to their authorized representative, posting a statement giving a summary of the application and specifying where a copy may be examined at the place or places where notices to employees are normally posted and by other appropriate means.

A description of how employees have been informed shall be contained in the certification. The information to employees shall also inform them of their right to petition the Secretary for a hearing.

(C) The Secretary is authorized to grant a variance from any standard or portion thereof whenever he determines, or the Secretary of Health, Education, and Welfare certifies, that such variance is necessary to permit an employer to participate in an experiment approved by him or the Secretary of Health, Education, and Welfare designed to demonstrate or validate new and improved techniques to safeguard the health or safety of workers.

(7) Any standard promulgated under this subsection shall prescribe the use of labels or other appropriate forms of warning as are necessary to insure that employees are apprised of all hazards to which they are exposed, relevant symptoms and appropriate emergency treatment, and proper conditions and precautions of safe use or exposure. Where appropriate, such standard shall also prescribe suitable protective equipment and control or technological procedures to be used in connection with such hazards and shall provide for monitoring or measuring employee exposure at such locations and intervals, and in such manner as may be necessary for the protection of employees. In addition, where appropriate, any such standard shall prescribe the type and frequency of medical examinations or other tests which shall be made available, by the employer or at his cost, to employees exposed to such hazards in order to most effectively determine whether the health of such employees is adversely affected by such exposure. In the event such medical examinations are in the nature of research, as determined by the Secretary of Health, Education, and Welfare, such examinations may be furnished at the expense of the Secretary of Health, Education, and Welfare. The results of such examinations or tests shall be furnished only to the Secretary or the Secretary of Health, Education, and Welfare, and, at the request of the employee, to his physician. The Secretary, in consultation with the Secretary of Health, Education, and Welfare, may by rule promulgated pursuant to section 553 of title 5, United States Code, make appropriate modifications in the foregoing requirements relating to the use of labels or other forms of warning, monitoring or measuring, and medical examinations, as may be warranted by experience, information, or medical or technological developments acquired subsequent to the promulgation of the relevant standard.

(8) Whenever a rule promulgated by the Secretary differs substantially from an existing national consensus standard, the Secretary shall, at the same time, publish in the Federal Register a statement of the reasons why the rule as adopted will better effectuate the purposes of this Act than the national consensus standard.

(c)(1) The Secretary shall provide, without regard to the requirements of chapter 5 title 5, United States Code, for an emergency temporary standard to take immediate effect upon publication in the Federal Register if he determines (A) that employees are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards, and (B) that such emergency standard is necessary to protect employees from such danger.

(2) Such standard shall be effective until superseded by a standard promulgated in accordance with the procedures prescribed in paragraph (3) of this subsection.

(3) Upon publication of such standard in the Federal Register the Secretary shall commence a proceeding in accordance with section 6(b) of this Act, and the standard as published shall also serve as a proposed rule for the proceeding. The Secretary shall promulgate a standard under this paragraph no later than six months after publication of the emergency standard as provided in paragraph (2) of this subsection.

(d) Any affected employer may apply to the Secretary for a rule or order for a variance from a standard promulgated under this section. Affected employees shall be given notice of each such application and an opportunity to participate in a hearing. The Secretary shall issue such rule or order if he determines on the record, after opportunity for an inspection where appropriate and a hearing, that the proponent of the variance has demonstrated by a preponderance of the evidence that the conditions, practices, means, methods, operations, or processes used or proposed to be used by an employer will provide employment and places of employment to his employees which are as safe and healthful as those which would prevail if he complied with the standard. The rule or order so issued shall prescribe the conditions the employer must maintain, and the practices, means, methods, operations, and processes which he must adopt and utilize to the extent they differ from the standard in question. Such a rule or order may be modified or revoked upon application by an employer, employees, or by the Secretary on his own motion, in the manner prescribed for its issuance under this subsection at any time after six months from its issuance.

(e) Whenever the Secretary promulgates any standard, makes any rule, order, or decision, grants any exemption or extension of time, or compromises, mitigates, or settles any penalty assessed under this Act, he shall include a statement of the reasons for such action, which shall be published in the Federal Register.

(f) Any person who may be adversely affected by a standard issued under this section may at any time prior to the sixtieth day after such standard is promulgated file a petition challenging the validity of such standard with the United States court of appeals for the circuit wherein such person resides or has his principal place of business, for a judicial review of such standard. A copy of the petition shall be forthwith transmitted by the clerk of the court to

the Secretary. The filing of such petition shall not, unless otherwise ordered by the court, operate as a stay of the standard. The determinations of the Secretary shall be conclusive if supported by substantial evidence in the record considered as a whole.

(g) In determining the priority for establishing standards under this section, the Secretary shall give due regard to the urgency of the need for mandatory safety and health standards for particular industries, trades, crafts, occupations, businesses, workplaces or work environments. The Secretary shall also give due regard to the recommendations of the Secretary of Health, Education, and Welfare regarding the need for mandatory standards in determining the priority for establishing such standards.

ADVISORY COMMITTEES; ADMINISTRATION

Sec. 7. (a) (1) There is hereby established a National Advisory Committee on Occupational Safety and Health consisting of twelve members appointed by the Secretary, four of whom are to be designated by the Secretary of Health, Education, and Welfare, without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and composed of representatives of managment, labor, occupational safety and occupational health professions, and of the public. The Secretary shall designate one of the public members as Chairman. The members shall be selected upon the basis of their experience and competence in the field of occupational safety and health.

(2) The Committee shall advise, consult with, and make recommendations to the secretary and the secretary of Health, Education, and Welfare on matters relating to the administration of the Act. The Committee shall hold no fewer than two meetings during each calendar year. All meetings of the Committee shall be open to the public and a transcript shall be kept and made available for public inspection.

(3) The members of the Committee shall be compensated in accordance with the provisions of section 3109 of title 5, United States Code.

(4) The Secretary shall furnish to the Committee an executive secretary and such secretarial, clerical, and other services as are deemed necessary to the conduct of its business.

(b) An advisory committee may be appointed by the Secretary to assist him in his standard-setting functions under section 6 of this Act. Each such committee shall consist of not more than fifteen members and shall include as a member one or more designees of the Secretary of Health, Education, and Welfare, and shall include among its members an equal number of persons qualified by experience and affiliation to present the viewpoint of the employers involved, and of persons similarly qualified to present the viewpoint of the workers involved, as well as one or more representatives of health and safety agencies of the States. An advisory committee may also include such other persons as the Secretary may appoint who are qualified by knowledge and experience to make a useful contribution to the work of such committee, including one or more representatives of professional organizations of technicians or professionals specializing in occupational safety or health, and one or more representatives of nationally recognized standards-producing organizations, but the number of persons so appointed to any such advisory committee shall not exceed the number appointed to such committee as representatives of Federal and State agencies. Persons appointed to advisory committees from private life shall be compensated in the same manner as consultants or experts under section 3109 of title 5, United States Code. The Secretary shall pay to any State which is the employer of a member of such a committee who is a representative of the health or safety agency of that State, reimbursement sufficient to cover the actual cost to the State resulting from such representative's membership on such committee. Any meeting of such committee shall be open to the public and an accurate record shall be kept and made available to the public. No member of such committee (other than representation of employer and employees) shall have an economic interest in any proposed rule.

(c) In carrying out his reponsibilities under this Act, the Secretary is authorized to—

(1) use, with the consent of any Federal agency, the services, facilities, and personnel of such agency, with or without reimbursement, and with the consent of any State or political subdivision thereof, accept and use the services, facilities, and personnel of any agency of such State or subdivision with reimbursement; and

(2) employ experts and consultants or organizations thereof as authorized by section 3109 of title 5, United States Code, except that contracts for such employment may be renewed annually; compensate individuals so employed at rates not in excess of the rate specified at the time of service for grade GS—18 under section 5332 of title 5, United States Code, including traveltime, and allow them while away from their homes or regular places of business travel expenses (including per diem in lieu of subsistence) as authorized by section 5703 of title 5, United States Code, for persons in the Government service employed intermittently, while so employed.

INSPECTIONS, INVESTIGATIONS, AND RECORDKEEPING

Sec. 8. (a) In order to carry out the purposes of this Act, the Secretary, upon presenting appropriate credentials to the owner, operator, or agency in charge, is authorized—

(1) to enter without delay and at reasonable times any factory, plant, establishment, construction site, or other area, workplace or environment where work is performed by an employee of an employer; and

(2) to inspect and investigate during regular working hours and at other reasonable times, and within reasonable limits and in a reasonable manner, any such place of employment and all pertinent conditions, structures, machines, apparatus, devices, equipment, and materials therein, and to question privately any such employer, owner, operator, agent or employee.

(b) In making his inspections and investigations under this Act the Secretary may require the attendance and testimony of witnesses and the production of evidence under oath. Witnesses shall be paid the same fees and mileage that are paid witnesses in the courts of the United States. In case of a contumacy, failure, or refusal of any

person to obey such an order, any district court of the United States or the United States courts of any territory or possession, within the jurisdiction of which such person is found, or resides or transacts business upon the application by the Secretary, shall have jurisdiction to issue to such person an order requiring such person to appear to produce evidence if, as, and when so ordered, and to give testimony relating to the matter under investigation or in question, and any failure to obey such order of the court may be punished by said court as a contempt thereof.

(c) (1) Each employer shall make, keep and preserve, and make available to the Secretary or the Secretary of Health, Education, and Welfare, such records regarding his activities relating to this Act as the Secretary, in cooperation with the Secretary of Health, Education, and Welfare, may prescribe by regulation as necessary or appropriate for the enforcement of this Act or for developing information regarding the causes and prevention of occupational accidents and illnesses. In order to carry out the provisions of this paragraph such regulations may include provisions requiring employers to conduct periodic inspections. The Secretary shall also issue regulations requiring that employers, through posting of notices or other appropriate means, keep their employees informed of their protections and obligations under this Act, including the provisions of applicable standards.

(2) The Secretary, in cooperation with the Secretary of Health, Education, and Welfare, shall prescribe regulations requiring employers to maintain accurate records of, and to make periodic reports on, work-related deaths, injuries and illness other than minor injuries requiring only first aid treatment and which do not involve medical treatment, loss of consciousness, restriction of work or motion, or transfer to another job.

(3) The Secretary, in cooperation with the Secretary of Health, Education, and Welfare, shall issue regulations requiring employers to maintain accurate records of employee exposures to potentially toxic materials or harmful physical agents which are required to be monitored or measured under section 6. Such regulations shall provide employees or their representatives with an opportunity to observe such monitoring or measuring, and to have access to the records thereof. Such regulations shall also make appropriate provision for each employee or former employee to have access to such records as will indicate his own exposure to toxic materials or harmful physical agents. Each employer shall promptly notify any employee who has been or is being exposed to toxic materials or harmful physical agents in concentrations or at levels which exceed those prescribed by an applicable occupational safety and health standard promulgated under section 6, and shall inform any employee who is being thus exposed of the corrective action being taken.

(d) Any information obtained by the Secretary, the Secretary of Health, Education, and Welfare, or a State agency under this Act shall be obtained with a minimum burden upon employers, especially those operating small businesses. Unnecessary duplication of efforts in obtaining information shall be reduced to the maximum extent feasible.

(e) Subject to regulations issued by the Secretary, a representative of the employer and a representative authorized by his employees shall be given an opportunity to accompany the Secretary or his authorized representative during the physical inspection of any workplace under subsection (a) for the purpose of aiding such inspection. Where there is no authorized employee representative, the Secretary or his authorized representative shall consult with a reasonable number of employees concerning matters of health and safety in the workplace.

(f) (1) Any employees or representative of employees who believe that a violation of a safety or health standard exists that threatens physical harm, or that an imminent danger exists, may request an inspection by giving notice to the Secretary or his authorized representative of such violation or danger. Any such notice shall be reduced to writing, shall set forth with reasonable particularity the grounds for the notice, and shall be signed by the employees or representative of employees, and a copy shall be provided the employer or his agent no later than at the time of inspection, except that, upon the request of the person giving such notice, his name and the names of individual employees referred to therein shall not appear in such copy or on any record published, released, or made available pursuant to subsection (g) of this section. If upon receipt of such notification the Secretary determines there are reasonable grounds to believe that such violation or danger exists, he shall make a special inspection in accordance with the provisions of this section as soon as practicable, to determine if such violation or danger exists. If the Secretary determines there are no reasonable grounds to believe that a violation or danger exists he shall notify the employees or representative of the employees in writing of such determination.

(2) Prior to or during any inspection of a workplace, any employees or representative of employees employed in such workplace may notify the Secretary or any representative of the Secretary responsible for conducting the inspection, in writing, of any violation of this Act which they have reason to believe exists in such workplace. The Secretary shall, by regulation, establish procedures for informal review of any refusal by a representative of the Secretary to issue a citation with respect to any such alleged violation and shall furnish the employees or representative of employees requesting such review a written statement of the reasons for the Secretary's final disposition of the case.

(g) (1) The Secretary and Secretary of Health, Education, and Welfare are authorized to compile, analyze, and publish, either in summary or detailed form, all reports or information obtained under this section.

(2) The Secretary and the Secretary of Health, Education, and Welfare shall each prescribe such rules and regulations as he may deem necessary to carry out their responsibilities under this Act, including rules and regulations dealing with the inspection of an employer's establishment.

CITATIONS

Sec. 9. (a) If, upon inspection or investigation, the Secretary or his authorized representative believes that an employer has violated a requirement of section 5 of this Act, of any standard, rule or order promulgated pursuant to section 6 of this Act, or of any regulations prescribed

pursuant to this Act, he shall with reasonable promptness issue a citation to the employer. Each citation shall be in writing and shall describe with particularity the nature of the violation, including a reference to the provision of the Act, standard, rule, regulation, or order alleged to have been violated. In addition, the citation shall fix a reasonable time for the abatement of the violation. The Secretary may prescribe procedures for the issuance of a notice in lieu of a citation with respect to de minimis violations which have no direct or immediate relationship to safety or health.

(b) Each citation issued under this section, or a copy or copies thereof, shall be prominently posted, as prescribed in regulations issued by the Secretary, at or near each place a violation referred to in the citation occurred.

(c) No citation may be issued under this section after the expiration of six months following the occurrence of any violation.

PROCEDURE FOR ENFORCEMENT

Sec. 10. (a) If, after an inspection or investigation, the Secretary issues a citation under section 9 (a), he shall, within a reasonable time after the termination of such inspection or investigation, notify the employer by certified mail of the penalty, if any, proposed to be assessed under section 17 and that the employer has fifteen working days within which to notify the Secretary that he wishes to contest the citation or proposed assessment of penalty. If, within fifteen working days from the receipt of the notice issued by the Secretary the employer fails to notify the Secretary that he intends to contest the citation or proposed assessment of penalty, and no notice is filed by any employee or representative of employees under subsection (c) within such time, the citation and the assessment, as proposed, shall be deemed a final order of the Commission and not subject to review by any court or agency.

(b) If the Secretary has reason to believe that an employer has failed to correct a violation for which a citation has been issued within the period permitted for its correction (which period shall not begin to run until the entry of a final order by the Commission in the case of any review proceedings under this section initiated by the employer in good faith and not solely for delay or avoidance of penalties), the Secretary shall notify the employer by certified mail of such failure and of the penalty proposed to be assessed under section 17 by reason of such failure, and that the employer has fifteen working days within which to notify the Secretary that he wishes to contest the Secretary's notification or the proposed assessment of penalty. If, within fifteen working days from the receipt of notification issued by the Secretary, the employer fails to notify the Secretary that he intends to contest the notification or proposed assessment of penalty, the notification and assessment, as proposed, shall be deemed a final order of the Commission and not subject to review by any court or agency.

(c) If an employer notifies the Secretary that he intends to contest a citation issued under section 9 (a) or notification issued under subsection (a) or (b) of this section, or if, within fifteen working days of the issuance of a citation under section 9 (a), any employee or representative of employees files a notice with the Secretary alleging that the period of time fixed in the citation for the abatement of the violation is unreasonable, the Secretary shall immediately advise the Commission of such notification, and the Commission shall afford an opportunity for a hearing (in accordance with section 554 of title 5, United States Code, but without regard to subsection (a) (3) of such section). The Commission shall thereafter issue an order, based on findings of fact, affirming, modifying, or vacating the Secretary's citation or proposed penalty, or directing other appropriate relief, and such order shall become final thirty days after its issuance. Upon a showing by an employer of a good faith effort to comply with the abatement requirements of a citation, and that abatement has not been completed because of factors beyond his reasonable control, the Secretary, after an opportunity for a hearing as provided in this subsection, shall issue an order affirming or modifying the abatement requirements in such citation. The rules of procedure prescribed by the Commission shall provide affected employees or representatives of affected employees an opportunity to participate as parties to hearings under this subsection.

JUDICIAL REVIEW

Sec. 11. (a) Any person adversely affected or aggrieved by an order of the Commission issued under subsection (c) of section 10 may obtain a review of such order in any United States court of appeals for the circuit in which the violation is alleged to have occurred or where the employer has its principal office, or in the Court of Appeals for the District of Columbia Circuit, by filing in such court within sixty days following the issuance of such order a written petition praying that the order be modified or set aside. A copy of such petition shall be forthwith transmitted by the clerk of the court to the Commission and to the other parties, and thereupon the Commission shall file in the court the record in the proceeding as provided in section 2112 of title 28, United States Code. Upon such filing, the court shall have jurisdiction of the proceeding and of the question determined therein, and shall have power to grant such temporary relief or restraining order as it deems just and proper, and to make and enter upon the pleadings, testimony, and proceedings set forth in such record a decree affirming, modifying, or setting aside in whole or in part, the order of the Commission and enforcing the same to the extent that such order is affirmed or modified. The commencement of proceedings under this subsection shall not, unless ordered by the court, operate as a stay of the order of the Commission. No objection that has not been urged before the Commission shall be considered by the court, unless the failure or neglect to urge such objection shall be excused because of extraordinary circumstances. The findings of the Commission with respect to questions of fact, if supported by substantial evidence on the record considered as a whole, shall be conclusive. If any party shall apply to the court for leave to adduce additional evidence and shall show to the satisfaction of the court that such additional evidence is material and that there were reasonable grounds for the failure to adduce such evidence in the hearing before the Commission, the court may order such additional evidence to be taken before the Commission and to be made a part of the record. The Commission may

modify its findings as to the facts, or make new findings, by reason of additional evidence so taken and filed, and it shall file such modified or new findings, which findings with respect to questions of fact, if supported by substantial evidence on the record considered as a whole, shall be conclusive, and its recommendations, if any, for the modification or setting aside of its original order. Upon the filing of the record with it, the jurisdiction of the court shall be exclusive and its judgment and decree shall be final, except that the same shall be subject to review by the Supreme Court of the United States, as provided in section 1254 of title 28, United States Code. Petitions filed under this subsection shall be heard expeditiously.

(b) The Secretary may also obtain review or enforcement of any final order of the Commission by filing a petition for such relief in the United States court of appeals for the circuit in which the alleged violation occurred or in which the employer has its principal office, and the provisions of subsection (a) shall govern such proceedings to the extent applicable. If no petition for review, as provided in subsection (a), is filed within sixty days after service of the Commission's order, the Commission's findings of fact and order shall be conclusive in connection with any petition for enforcement which is filed by the Secretary after the expiration of such sixty-day period. In any such case, as well as in the case of a noncontested citation or notification by the Secretary which has become a final order of the Commission under subsection (a) or (b) of section 10, the clerk of the court, unless otherwise ordered by the court, shall forthwith enter a decree enforcing the order and shall transmit a copy of such decree to the Secretary and the employer named in the petition. In any contempt proceeding brought to enforce a decree of a court of appeals entered pursuant to this subsection or subsection (a), the court of appeals may assess the penalties provided in section 17, in addition to invoking any other available remedies.

(c) (1) No person shall discharge or in any manner discriminate against any employee because such employee has filed any complaint or instituted or caused to be instituted any proceeding under or related to this Act or has testified or is about to testify in any such proceeding or because of the exercise by such employee on behalf of himself or others of any right afforded by this Act.

(2) Any employee who believes that he has been discharged or otherwise discriminated against by any person in violation of this subsection may, within thirty days after such violation occurs, file a complaint with the Secretary alleging such discrimination. Upon receipt of such complaint, the Secretary shall cause such investigation to be made as he deems appropriate. If upon such investigation, the Secretary determines that the provisions of this subsection have been violated, he shall bring an action in any appropriate United States district court against such person. In any such action the United States district courts shall have jurisdiction, for cause shown to restrain violations of paragraph (1) of this subsection and order all appropriate relief including rehiring or reinstatement of the employee to his former position with back pay.

(3) Within 90 days of the receipt of a complaint filed under this subsection the Secretary shall notify the complainant of his determination under paragraph 2 of this subsection.

THE OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION

Sec. 12. (a) The Occupational Safety and Health Review Commission is hereby established. The Commission shall be composed of three members who shall be appointed by the President, by and with the advice and consent of the Senate, from among persons who by reason of training, education, or experience are qualified to carry out the functions of the Commission under this Act. The President shall designate one of the members of the Commission to serve as Chairman.

(b) The terms of members of the Commission shall be six years except that (1) the members of the Commission first taking office shall serve, as designated by the President at the time of appointment, one for a term of two years, one for a term of four years, and one for a term of six years, and (2) a vacancy caused by the death, resignation, or removal of a member prior to the expiration of the term for which he was appointed shall be filled only for the remainder of such unexpired term. A member of the Commission may be removed by the President for inefficiency, neglect of duty, or malfeasance in office.

(c) (1) Section 5314 of title 5, United States Code, is amended by adding at the end thereof the following new paragraph:

"(57) Chairman, Occupational Safety and Health Review Commission."

(2) Section 5315 of title 5, United States Code, is amended by adding at the end thereof the following new paragraph:

"(94) Members, Occupational Safety and Health Review Commission."

(d) The principal office of the Commission shall be in the District of Columbia. Whenever the Commission deems that the convenience of the public or of the parties may be promoted, or delay or expense may be minimized, it may hold hearings or conduct other proceedings at any other place.

(e) The Chairman shall be responsible on behalf of the Commission for the administrative operations of the Commission and shall appoint such hearing examiners and other employees as he deems necessary to assist in the performance of the Commission's functions and to fix their compensation in accordance with the provisions of chapter 51 and subchapter III of chapter 53 of title 5, United States Code, relating to classification and General Schedule pay rates: *Provided*, That assignment, removal and compensation of hearing examiners shall be in accordance with sections 3105, 3344, 5362, and 7521 of title 5, United States Code.

(f) For the purpose of carrying out its functions under this Act, two members of the Commission shall constitute a quorum and official action can be taken only on the affirmative vote of at least two members.

(g) Every official act of the Commission shall be entered of record, and its hearings and records shall be open to the public. The Commission is authorized to make such rules as are necessary for the orderly transaction of its proceedings.

Unless the Commission has adopted a different rule, its proceedings shall be in accordance with the Federal Rules of Civil Procedure.

(h) The Commission may order testimony to be taken by deposition in any proceedings pending before it at any state of such proceeding. Any person may be compelled to appear and depose, and to produce books, papers, or documents, in the same manner as witnesses may be compelled to appear and testify and produce like documentary evidence before the Commission. Witnesses whose depositions are taken under this subsection, and the persons taking such depositions, shall be entitled to the same fees as are paid for like services in the courts of the United States.

(i) For the purpose of any proceeding before the Commission, the provisions of section 11 of the National Labor Relations Act (29 U.S.C. 161) are hereby made applicable to the jurisdiction and powers of the Commission.

(j) A hearing examiner appointed by the Commission shall hear, and make a determination upon, any proceeding instituted before the Commission and any motion in connection therewith, assigned to such hearing examiner by the Chairman of the Commission, and shall make a report of any such determination which constitutes his final disposition of the proceedings. The report of the hearing examiner shall become the final order of the Commission within thirty days after such report by the hearing examiner, unless within such period any Commission member has directed that such report shall be reviewed by the Commission.

(k) Except as otherwise provided in this Act, the hearing examiners shall be subject to the laws governing employees in the classified civil service, except that appointments shall be made without regard to section 5108 of title 5, United States Code. Each hearing examiner shall receive compensation at a rate not less than that prescribed for GS-16 under section 5332 of title 5, United States Code.

PROCEDURES TO COUNTERACT IMMINENT DANGERS

Sec. 13. (a) The United States district courts shall have jurisdiction, upon petition of the Secretary, to restrain any conditions or practices in any place of employment which are such that a danger exists which could reasonably be expected to cause death or serious physical harm immediately or before the imminence of such danger can be eliminated through the enforcement procedures otherwise provided by this Act. Any order issued under this section may require such steps to be taken as may be necessary to avoid, correct, or remove such imminent danger and prohibit the employment or presence of any individual in locations or under conditions where such imminent danger exists, except individuals whose presence is necessary to avoid, correct, or remove such imminent danger or to maintain the capacity of a continuous process operation to resume normal operations without a complete cessation of operations, or where a cessation of operations is necessary, to permit such to be accomplished in a safe and orderly manner.

(b) Upon the filing of any such petition the district court shall have jurisdiction to grant such injunctive relief or temporary restraining order pending the outcome of an enforcement proceeding pursuant to this Act. The proceeding shall be as provided by Rule 65 of the Federal Rules, Civil Procedure, except that no temporary restraining order issued without notice shall be effective for a period longer than five days.

(c) Whenever and as soon as an inspector concludes that conditions or practices described in subsection (a) exist in any place of employment, he shall inform the affected employees and employers of the danger and that he is recommending to the Secretary that relief be sought.

(d) If the Secretary arbitrarily or capriciously fails to seek relief under this section, any employee who may be injured by reason of such failure, or the representative of such employees, might bring an action against the Secretary in the United States district court for the district in which the imminent danger is alleged to exist or the employer has its principal office, or for the District of Columbia, for a writ of mandamus to compel the Secretary to seek such an order and for such further relief as may be appropriate.

REPRESENTATION IN CIVIL LITIGATION

Sec. 14. Except as provided in section 518(a) of title 28, United States Code, relating to litigation before the Supreme Court, the Solicitor of Labor may appear for and represent the Secretary in any civil litigation brought under this Act but all such litigation shall be subject to the direction and control of the Attorney General.

CONFIDENTIALITY OF TRADE SECRETS

Sec. 15. All information reported to or otherwise obtained by the Secretary or his representative in connection with any inspection or proceeding under this Act which contains or which might reveal a trade secret referred to in section 1905 of title 18 of the United States Code shall be considered confidential for the purpose of that section, except that such information may be disclosed to other officers or employees concerned with carrying out this Act or when relevant in any proceeding under this Act. In any such proceeding the Secretary, the Commission, or the court shall issue such orders as may be appropriate to protect the confidentiality of trade secrets.

VARIATIONS, TOLERANCES, AND EXEMPTIONS

Sec. 16. The Secretary, on the record, after notice and opportunity for a hearing may provide such reasonable limitations and may make such rules and regulations allowing reasonable variations, tolerances, and exemptions to and from any or all provisions of this Act as he may find necessary and proper to avoid serious impairment of the national defense. Such action shall not be in effect for more than six months without notification to affected employees and an opportunity being afforded for a hearing.

PENALTIES

Sec. 17. (a) Any employer who willfully or repeatedly violates the requirements of section 5 of this Act, any standard, rule, or order promulgated pursuant to section 6 of this Act, or regulations prescribed pursuant to this Act, may be assessed a civil penalty of not more than $10,000 for each violation.

(b) Any employer who has received a citation for a serious violation of the requirements of section 5 of this Act, of any standard, rule, or order promulgated pursuant to section 6 of this Act, or of any regulations prescribed pursuant to this Act, shall be assessed a civil penalty of up to $1,000 for each such violation.

(c) Any employer who has received a citation for a violation of the requirements of section 5 of this Act, of any standard, rule, or order promulgated pursuant to section 6 of this Act, or of regulations prescribed pursuant to this Act, and such violation is specifically determined not to be of a serious nature, may be assessed a civil penalty of up to $1,000 for each such violation.

(d) Any employer who fails to correct a violation for which a citation has been issued under section 9(a) within the period permitted for its correction (which period shall not begin to run until the date of the final order of the Commission in the case of any review proceeding under section 10 initiated by the employer in good faith and not solely for delay or avoidance of penalties), may be assessed a civil penalty of not more than $1,000 for each day during which such failure or violation continues.

(e) Any employer who willfully violates any standard, rule, or order promulgated pursuant to section 6 of this Act, or of any regulations prescribed pursuant to this Act, and that violation caused death to any employee, shall, upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than six months, or by both; except that if the conviction is for a violation committed after a first conviction of such person, punishment shall be by a fine of not more than $20,000 or by imprisonment for not more than one year, or by both.

(f) Any person who gives advance notice of any inspection to be conducted under this Act, without authority from the Secretary or his designees, shall, upon conviction, be punished by a fine of not more than $1,000 or by imprisonment for not more than six months, or by both.

(g) Whoever knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to this Act shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than six months, or by both.

(h) (1) Section 1114 of title 18, United States Code, is hereby amended by striking out "designated by the Secretary of Health, Education, and Welfare to conduct investigations, or inspections under the Federal Food, Drug, and Cosmetic Act" and inserting in lieu thereof "or of the Department of Labor assigned to perform investigative, inspection, or law enforcement functions."

(2) Notwithstanding the provisions of sections 1111 and 1114 of title 18, United States Code, whoever, in violation of the provisions of section 1114 of such title, kills a person while engaged in or on account of the performance of investigative, inspection, or law enforcement functions added to such section 1114 by paragraph (1) of this subsection, and who would otherwise be subject to the penalty provisions of such section 1111, shall be punished by imprisonment for any term of years or for life.

(i) Any employer who violates any of the posting requirements, as prescribed under the provisions of this Act, shall be assessed a civil penalty of up to $1,000 for each violation.

(j) The Commission shall have authority to assess all civil penalties provided in this section, giving due consideration to the appropriateness of the penalty with respect to the size of the business of the employer being charged, the gravity of the violation, the good faith of the employer, and the history of previous violations.

(k) For purposes of this section, a serious violation shall be deemed to exist in a place of employment if there is a substantial probability that death or serious physical harm could result from a condition which exists, or from one or more practices, means, methods, operations, or processes which have been adopted or are in use, in such place of employment unless the employer did not, and could not with the exercise of reasonable diligence, know of the presence of the violation.

(l) Civil penalties owed under this Act shall be paid to the Secretary for deposit into the Treasury of the United States and shall accrue to the United States and may be recovered in a civil action in the name of the United States brought in the United States district court for the district where the violation is alleged to have occurred or where the employer has its principal office.

STATE JURISDICTION AND STATE PLANS

Sec. 18. (a) Nothing in this Act shall prevent any State agency or court from asserting jurisdiction under State law over any occupational safety or health issue with respect to which no standard is in effect under section 6.

(b) Any State which, at any time, desires to assume responsibility for development and enforcement therein of occupational safety and health standards relating to any occupational safety or health issue with respect to which a Federal standard has been promulgated under section 6 shall submit a State plan for the development of such standards and their enforcement.

(c) The Secretary shall approve the plan submitted by a State under subsection (b), or any modification thereof, if such plan in his judgment—

(1) designates a State agency or agencies as the agency or agencies responsible for administering the plan throughout the State,

(2) provides for the development and enforcement of safety and health standards relating to one or more safety or health issues, which standards (and the enforcement of which standards) are or will be at least as effective in providing safe and healthful employment and places of employment as the standards promulgated under section 6 which relate to the same issues, and which standards, when applicable to products which are distributed or used in interstate commerce, are required by compelling local conditions and do not unduly burden interstate commerce,

(3) provides for a right of entry and inspection of all work-places subject to the Act which is at least as effective as that provided in section 8, and includes a prohibition on advance notice of inspections,

(4) contains satisfactory assurances that such agency or agencies have or will have the legal authority and qualified personnel necessary for the enforcement of such standards,

(5) gives satisfactory assurances that such State will devote adequate funds to the administration and enforcement of such standards,

(6) contains satisfactory assurances that such State will, to the extent permitted by its law, establish and maintain an effective and comprehensive occupational safety and health program applicable to all employees of public agencies of the State and its political subdivisions, which program is as effective as the standards contained in an approved plan,

(7) requires employers in the State to make reports to the Secretary in the same manner and to the same extent as if the plan were not in effect, and

(8) provides that the State agency will make such reports to the Secretary in such form and containing such information, as the Secretary shall from time to time require.

(d) If the Secretary rejects a plan submitted under subsection (b), he shall afford the State submitting the plan due notice and opportunity for a hearing before so doing.

(e) After the Secretary approves a State plan submitted under subsection (b), he may, but shall not be required to, exercise his authority under sections 8, 9, 13, and 17 with respect to comparable standards promulgated under section 6, for the period specified in the next sentence. The Secretary may exercise the authority referred to above until he determines, on the basis of actual operations under the State plan, that the criteria set forth in subsection (c) are being applied, but he shall not make such determination for at least three years after the plan's approval under subsection (c). Upon making the determination referred to in the preceding sentence, the provisions of sections 5(a)(2), 8 (except for the purpose of carrying out subsection (f) of this section), 9, 10, 13, and 17, and standards promulgated under section 6 of this Act, shall not apply with respect to any occupational safety or health issues covered under the plan, but the Secretary may retain jurisdiction under the above provisions in any proceeding commenced under section 9 or 10 before the date of determination.

(f) The Secretary shall, on the basis of reports submitted by the State agency and his own inspections make a continuing evaluation of the manner in which each State having a plan approved under this section is carrying out such plan. Whenever the Secretary finds, after affording due notice and opportunity for a hearing, that in the administration of the State plan there is a failure to comply substantially with any provision of the State plan (or any assurance contained therein), he shall notify the State agency of his withdrawal of approval of such plan and upon receipt of such notice such plan shall cease to be in effect, but the State may retain jurisdiction in any case commenced before the withdrawal of the plan in order to enforce standards under the plan whenever the issues involved do not relate to the reasons for the withdrawal of the plan.

(g) The State may obtain a review of a decision of the Secretary withdrawing approval of or rejecting its plan by the United States court of appeals for the circuit in which the State is located by filing in such court within thirty days following receipt of notice of such decision a petition to modify or set aside in whole or in part the action of the Secretary. A copy of such petition shall forthwith be served upon the Secretary, and thereupon the Secretary shall certify and file in the court the record upon which the decision complained of was issued as provided in section 2112 of title 28, United States Code. Unless the court finds that the Secretary's decision in rejecting a proposed State plan or withdrawing his approval of such a plan is not supported by substantial evidence the court shall affirm the Secretary's decision. The judgment of the court shall be subject to review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of title 28, United States Code.

(h) The Secretary may enter into an agreement with a State under which the State will be permitted to continue to enforce one or more occupational health and safety standards in effect in such State until final action is taken by the Secretary with respect to a plan submitted by a State under subsection (b) of this section, or two years from the date of enactment of this Act, whichever is earlier.

FEDERAL AGENCY SAFETY PROGRAMS AND RESPONSIBILITIES

Sec. 19. (a) It shall be the responsibility of the head of each Federal agency to establish and maintain an effective and comprehensive occupational safety and health program which is consistent with the standards promulgated under section 6. The head of each agency shall (after consultation with representatives of the employees thereof)—

(1) provide safe and healthful places and conditions of employment, consistent with the standards set under section 6;

(2) acquire, maintain, and require the use of safety equipment, personal protective equipment, and devices reasonably necessary to protect employees;

(3) keep adequate records of all occupational accidents and illnesses for proper evaluation and necessary corrective action;

(4) consult with the Secretary with regard to the adequacy as to form and content of records kept pursuant to subsection (a)(3) of this section; and

(5) make an annual report to the Secretary with respect to occupational accidents and injuries and the agency's program under this section. Such report shall include any report submitted under section 7902(e)(2) of title 5, United States Code.

(b) The Secretary shall report to the President a summary or digest of reports submitted to him under subsection (a)(5) of this section, together with his evaluations of and recommendations derived from such reports. The President shall transmit annually to the Senate and the House of Representatives a report of the activities of Federal agencies under this section.

(c) Section 7902(c)(1) of title 5, United States Code, is amended by inserting after "agencies" the following: "and of labor organizations representing employees."

(d) The Secretary shall have access to records and reports kept and filed by Federal agencies pursuant to subsections (a)(3) and (5) of this section unless those records and reports are specifically required by Executive order to be kept secret in the interest of the national

defense or foreign policy, in which case the Secretary shall have access to such information as will not jeopardize national defense or foreign policy.

RESEARCH AND RELATED ACTIVITIES

Sec. 20. (a) (1) The Secretary of Health, Education, and Welfare, after consultation with the Secretary and with other appropriate Federal departments or agencies, shall conduct (directly or by grants or contracts) research, experiments, and demonstrations relating to occupational safety and health, including studies of psychological factors involved, and relating to innovative methods, techniques, and approaches for dealing with occupational safety and health problems.

(2) The Secretary of Health, Education, and Welfare shall from time to time consult with the Secretary in order to develop specific plans for such research, demonstrations, and experiments as are necessary to produce criteria, including criteria identifying toxic substances, enabling the Secretary to meet his responsibility for the formulation of safety and health standards under this Act; and the Secretary of Health, Education, and Welfare, on the basis of such research, demonstrations, and experiments and any other information available to him, shall develop and publish at least annually such criteria as will effectuate the purposes of this Act.

(3) The Secretary of Health, Education, and Welfare, on the basis of such research, demonstrations, and experiments, and any other information available to him, shall develop criteria dealing with toxic materials and harmful physical agents and substances which will describe exposure levels that are safe for various periods of employment, including but not limited to the exposure levels at which no employee will suffer impaired health or functional capacities or diminished life expectancy as a result of his work experience.

(4) The Secretary of Health, Education, and Welfare shall also conduct special research, experiments, and demonstrations relating to occupational safety and health as are necessary to explore new problems, including those created by new technology in occupational safety and health, which may require ameliorative action beyond that which is otherwise provided for in the operating provisions of this Act. The Secretary of Health, Education, and Welfare shall also conduct research into the motivational and behavioral factors relating to the field of occupational safety and health.

(5) The Secretary of Health, Education, and Welfare, in order to comply with his responsibilities under paragraph (2), and in order to develop needed information regarding potentially toxic substances or harmful physical agents, may prescribe regulations requiring employers to measure, record, and make reports on the exposure of employees to substances or physical agents which the Secretary of Health, Education, and Welfare reasonably believes may endanger the health or safety of employees. The Secretary of Health, Education, and Welfare also is authorized to establish such programs of medical examinations and tests as may be necessary for determining the incidence of occupational illnesses and the susceptibility of employees to such illnesses. Nothing in this or any other provision of this Act shall be deemed to authorize or require medical examination, immunization, or treatment for those who object thereto on religious grounds, except where such is necessary for the protection of the health or safety of others. Upon the request of any employer who is required to measure and record exposure of employees to substances or physical agents as provided under this subsection, the Secretary of Health, Education, and Welfare shall furnish full financial or other assistance to such employer for the purpose of defraying any additional expense incurred by him in carrying out the measuring and recording as provided in this subsection.

(6) The Secretary of Health, Education, and Welfare shall publish within six months of enactment of this Act and thereafter as needed but at least annually a list of all known toxic substances by generic family or other useful grouping, and the concentrations at which such toxicity is known to occur. He shall determine following a written request by any employer or authorized representative of employees, specifying with reasonable particularity the grounds on which the request is made, whether any substance normally found in the place of employment has potentially toxic effects in such concentrations as used or found; and shall submit such determination both to employers and affected employees as soon as possible. If the Secretary of Health, Education, and Welfare determines that any substance is potentially toxic at the concentrations in which it is used or found in a place of employment, and such substance is not covered by an occupational safety or health standard promulgated under section 6, the Secretary of Health, Education, and Welfare shall immediately submit such determination to the Secretary, together with all pertinent criteria.

(7) Within two years of enactment of this Act, and annually thereafter the Secretary of Health, Education, and Welfare shall conduct and publish industrywide studies of the effect of chronic or low-level exposure to industrial materials, processes, and stresses on the potential for illness, disease, or loss of functional capacity in aging adults.

(b) The Secretary of Health, Education, and Welfare is authorized to make inspections and question employers and employees as provided in section 8 of this Act in order to carry out his functions and responsibilities under this section.

(c) The Secretary is authorized to enter into contracts, agreements, or other arrangements with appropriate public agencies or private organizations for the purpose of conducting studies relating to his responsibilities under this Act. In carrying out his responsibilities under this subsection, the Secretary shall cooperate with the Secretary of Health, Education, and Welfare in order to avoid any duplication of efforts under this section.

(d) Information obtained by the Secretary and the Secretary of Health, Education, and Welfare under this section shall be disseminated by the Secretary to employers and employees and organizations thereof.

(e) The functions of the Secretary of Health, Education, and Welfare under this Act shall, to the extent feasible, be delegated to the Director of the National Institute for Occupational Safety and Health established by section 22 of this Act.

TRAINING AND EMPLOYEE EDUCATION

Sec. 21. (a) The Secretary of Health, Education, and Welfare, after consultation with the Secretary and with other appropriate Federal departments and agencies, shall conduct, directly or by grants or contracts (1) education programs to provide an adequate supply of qualified personnel to carry out the purposes of this Act, and (2) informational programs on the importance of and proper use of adequate safety and health equipment.

(b) The Secretary is also authorized to conduct, directly or by grants or contracts, short-term training of personnel engaged in work related to his responsibilities under this Act.

(c) The Secretary, in consultation with the Secretary of Health, Education, and Welfare, shall (1) provide for the establishment and supervision of programs for the education and training of employers and employees in the recognition, avoidance, and prevention of unsafe or unhealthful working conditions in employments covered by this Act, and (2) consult with and advise employers and employees, and organizations representing employers and employees as to effective means of preventing occupational injuries and illnesses.

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

Sec. 22. (a) It is the purpose of this section to establish a National Institute for Occupational Safety and Health in the Department of Health, Education, and Welfare in order to carry out the policy set forth in section 2 of this Act and to perform the functions of the Secretary of Health, Education, and Welfare under sections 20 and 21 of this Act.

(b) There is hereby established in the Department of Health, Education, and Welfare a National Institute for Occupational Safety and Health. The Institute shall be headed by a Director who shall be appointed by the Secretary of Health, Education, and Welfare, and who shall serve for a term of six years unless previously removed by the Secretary of Health, Education and Welfare.

(c) The Institute is authorized to—

(1) develop and establish recommended occupational safety and health standards; and

(2) perform all functions of the Secretary of Health, Education, and Welfare under sections 20 and 21 of this Act.

(d) Upon his own initiative, or upon the request of the Secretary or the Secretary of Health, Education, and Welfare, the Director is authorized (1) to conduct such research and experimental programs as he determines are necessary for the development of criteria for new and improved occupational safety and health standards, and (2) after consideration of the results of such research and experimental programs make recommendations concerning new or improved occupational safety and health standards. Any occupational safety and health standard recommended pursuant to this section shall immediately be forwarded to the Secretary of Labor, and to the Secretary of Health, Education, and Welfare.

(e) In addition to any authority vested in the Institute by other provisions of this section, the Director, in carrying out the functions of the Institute, is authorized to—

(1) prescribe such regulations as he deems necessary governing the manner in which its functions shall be carried out;

(2) receive money and other property donated, bequeathed, or devised, without condition or restriction other than that it be used for the purposes of the Institute and to use, sell, or otherwise dispose of such property for the purpose of carrying out its functions;

(3) receive (and use, sell, or otherwise dispose of, in accordance with paragraph (2)), money and other property donated, bequeathed, or devised to the Institute with a condition or restriction, including a condition that the Institute use other funds of the Institute for the purposes of the gift;

(4) in accordance with the civil service laws, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this section;

(5) obtain the services of experts and consultants in accordance with the provisions of section 3109 of title 5, United States Code;

(6) accept and utilize the services of voluntary and noncompensated personnel and reimburse them for travel expenses, including per diem, as authorized by section 5703 of title 5, United States Code;

(7) enter into contracts, grants or other arrangements, or modifications thereof to carry out the provisions of this section, and such contracts or modifications thereof may be entered into without performance or other bonds, and without regard to section 3709 of the Revised Statutes, as amended (41 U.S.C. 5), or any other provision of law relating to competitive bidding;

(8) make advance, progress, and other payments which the Director deems necessary under this title without regard to the provisions of section 3648 of the Revised Statutes, as amended (31 U.S.C. 529); and

(9) make other necessary expenditures.

(f) The Director shall submit to the Secretary of Health, Education, and Welfare, to the President, and to the Congress an annual report of the operations of the Institute under this Act, which shall include a detailed statement of all private and public funds recieved and expended by it, and such recommendations as he deems appropriate.

GRANTS TO THE STATES

Sec. 23. (a) The Secretary is authorized, during the fiscal year ending June 30, 1971, and the two succeeding fiscal years, to make grants to the States which have designated a State agency under section 18 to assist them—

(1) in identifying their needs and responsibilities in the area of occupational safety and health,

(2) in developing State plans under section 18, or

(3) in developing plans for—

(A) establishing systems for the collection of information concerning the nature and frequency of occupational injuries and diseases;

(B) increasing the expertise and enforcement capabilities of their personnel engaged in occupational safety and health programs; or

(C) otherwise improving the administration and enforcement of State occupational safety and health laws, including standards thereunder, consistent with the objectives of this Act.

(b) The Secretary is authorized, during the fiscal year ending June 30, 1971, and the two succeeding fiscal years, to make grants to the States for experimental and demonstration projects consistent with the objectives set forth in subsection (a) of this section.

(c) The Governor of the State shall designate the appropriate State agency for receipt of any grant made by the Secretary under this section.

(d) Any State agency designated by the Governor of the State desiring a grant under this section shall submit an application therefor to the Secretary.

(e) The Secretary shall review the application, and shall, after consultation with the Secretary of Health, Education, and Welfare, approve or reject such application.

(f) The Federal share for each State grant under subsection (a) or (b) of this section may not exceed 90 per centum of the total cost of the application. In the event the Federal share for all States under either such subsection is not the same, the differences among the States shall be established on the basis of objective criteria.

(g) The Secretary is authorized to make grants to the States to assist them in administering and enforcing programs for occupational safety and health contained in State plans approved by the Secretary pursuant to section 18 of this Act. The Federal share for each State grant under this subsection may not exceed 50 per centum of the total cost to the State of such a program. The last sentence of subsection (f) shall be applicable in determining the Federal share under this subsection.

(h) Prior to June 30, 1973, the Secretary shall, after consultation with the Secretary of Health, Education, and Welfare, transmit a report to the President and to the Congress, describing the experience under the grant programs authorized by this section and making any recommendations he may deem appropriate.

Statistics

Sec. 24. (a) In order to further the purposes of this Act, the Secretary, in consultation with the Secretary of Health, Education, and Welfare, shall develop and maintain an effective program of collection, compilation, and analysis of occupational safety and health statistics. Such program may cover all employments whether or not subject to any other provisions of this Act but shall not cover employments excluded by section 4 of the Act. The Secretary shall compile accurate statistics on work injuries and illnesses which shall include all disabling, serious, or significant injuries and illnesses, whether or not involving loss of time from work, other than minor injuries requiring only first aid treatment and which do not involve medical treatment, loss of consciousness, restriction of work or motion, or transfer to another job.

(b) To carry out his duties under subsection (a) of this section, the Secretary may—

(1) promote, encourage, or directly engage in programs of studies, information and communication concerning occupational safety and health statistics:

(2) make grants to States or political subdivisions thereof in order to assist them in developing and administering programs dealing with occupational safety and health statistics; and

(3) arrange, through grants or contracts, for the conduct of such research and investigations as give promise of furthering the objectives of this section.

(c) The Federal share for each grant under subsection (b) of this section may be up to 50 per centum of the State's total cost.

(d) The Secretary may, with the consent of any State or political subdivision thereof, accept and use the services, facilities, and employees of the agencies of such State or political subdivision, with or without reimbursement, in order to assist him in carrying out his functions under this section.

(e) On the basis of the records made and kept pursuant to section 8(c) of this Act, employers shall file such reports with the Secretary as he shall prescribe by regulation, as necessary to carry out his functions under this Act.

(f) Agreements between the Department of Labor and States pertaining to the collection of occupational safety and health statistics already in effect on the effective date of this Act shall remain in effect until superseded by grants or contracts made under this Act.

AUDITS

Sec. 25. (a) Each recipient of a grant under this Act shall keep such records as the Secretary or the Secretary of Health, Education, and Welfare shall prescribe, including records which fully disclose the amount and disposition by such recipient of the proceeds of such grant, the total cost of the project or undertaking in connection with which such grant is made or used, and the amount of that portion of the cost of the project or undertaking supplied by other sources, and such other records as will facilitate an effective audit.

(b) The Secretary or the Secretary of Health, Education, and Welfare, and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access for the purpose of audit and examination to any books, documents, papers, and records of the recipients of any grant under this Act that are pertinent to any such grant.

ANNUAL REPORT

Sec. 26. Within one hundred and twenty days following the convening of each regular session of Congress, the Secretary and the Secretary of Health, Education, and Welfare shall each prepare and submit to the President for transmittal to the Congress a report upon the subject matter of this Act, the progress toward achievement of the purpose of this Act, the needs and requirements in the field of occupational safety and health, and any other relevant information. Such reports shall include information regarding occupational safety and health standards, and criteria for such standards, developed during the preceding year; evaluation of standards and criteria previously developed under this Act, defining areas of emphasis for new criteria and standards; an evaluation of the degree of observance of applicable occupational safety and health

standards, and a summary of inspection and enforcement activity undertaken; analysis and evaluation of research activities for which results have been obtained under governmental and nongovernmental sponsorship; an analysis of major occupational diseases; evaluation of available control and measurement technology for hazards for which standards or criteria have been developed during the preceding year; description of cooperative efforts undertaken between Government agencies and other interested parties in the implementation of this Act during the preceding year; a progress report on the development of an adequate supply of trained manpower in the field of occupational safety and health, including estimates of future needs and the efforts being made by Government and others to meet those needs; listing of all toxic substances in industrial usage for which labeling requirements, criteria, or standards have not yet been established; and such recommendations for additional legislation as are deemed necessary to protect the safety and health of the worker and improve the administration of this Act.

NATIONAL COMMISSION ON STATE WORKMEN'S COMPENSATION LAWS

Sec. 27. (a)(1) The Congress hereby finds and declares that—

(A) the vast majority of American workers, and their families, are dependent on workmen's compensation for their basic economic security in the event such workers suffer disabling injury or death in the course of their employment; and that the full protection of American workers from job-related injury or death requires an adequate, prompt, and equitable system of workmen's compensation as well as an effective program of occupational health and safety regulation; and

(B) in recent years serious questions have been raised concerning the fairness and adequacy of present workmen's compensation laws in the light of the growth of the economy, the changing nature of the labor force, increases in medical knowledge, changes in the hazards associated with various types of employment, new technology creating new risks to health and safety, and increases in the general level of wages and the cost of living.

(2) The purpose of this section is to authorize an effective study and objective evaluation of State workmen's compensation laws in order to determine if such laws provide an adequate, prompt, and equitable system of compensation for injury or death arising out of or in the course of employment.

(b) There is hereby established a National Commission on State Workmen's Compensation Laws.

(c)(1) The Workmen's Compensation Commission shall be composed of fifteen members to be appointed by the President from among members of State workmen's compensation boards, representatives of insurance carriers, business, labor, members of the medical profession having experience in industrial medicine or in workmen's compensation cases, educators having special expertise in the field of workmen's compensation, and representatives of the general public. The Secretary, the Secretary of Commerce, and the Secretary of Health, Education, and Welfare shall be ex officio members of the Workmen's Compensation Commission:

(2) Any vacancy in the Workmen's Compensation Commission shall not affect its powers.

(3) The President shall designate one of the members to serve as Chairman and one to serve as Vice Chairman of the Workmen's Compensation Commission.

(4) Eight members of the Workmen's Compensation Commission shall constitute a quorum.

(d)(1) The Workmen's Compensation Commission shall undertake a comprehensive study and evaluation of State workmen's compensation laws in order to determine if such laws provide an adequate, prompt, and equitable system of compensation. Such study and evaluation shall include, without being limited to, the following subjects: (A) the amount and duration of permanent and temporary disability benefits and the criteria for determining the maximum limitations thereon, (B) the amount and duration of medical benefits and provisions insuring adequate medical care and free choice of physician. (C) the extent of coverage of workers, including exemptions based on numbers or type of employment, (D) standards for determining which injuries or diseases should be deemed compensable, (E) rehabilitation, (F) coverage under second or subsequent injury funds, (G) time limits on filing claims, (H) waiting periods, (I) compulsory or elective coverage, (J) administration, (K) legal expenses, (L) the feasibility and desirability of a uniform system of reporting information concerning job-related injuries and diseases and the operation of workmen's compensation laws, (M) the resolution of conflict of laws, extraterritoriality and similar problems arising from claims with multistate aspects, (N) the extent to which private insurance carriers are excluded from supplying workmen's compensation coverage and the desirability of such exclusionary practices, to the extent they are found to exist, (O) the relationship between workmen's compensation on the one hand, and old-age, disability, and survivors insurance and other types of insurance, public or private, on the other hand, (P) methods of implementing the recommendations of the Commission.

(2) The Workmen's Compensation Commission shall transmit to the President and to the Congress not later than July 31, 1972, a final report containing a detailed statement of the findings and conclusions of the Commission, together with such recommendations as it deems advisable.

(e)(1) The Workmen's Compensation Commission or, on the authorization of the Workmen's Compensation Commission, any subcommittee or members thereof, may, for the purpose of carrying out the provisions of this title, hold such hearings, take such testimony, and sit and act at such times and places as the Workmen's Compensation Commission deems advisable. Any member authorized by the Workmen's Compensation Commission may administer oaths or affirmations to witnesses appearing before the Workmen's Compensation Commission or any subcommittee or members thereof.

(2) Each department, agency, and instrumentality of the executive branch of the Government, including independent agencies, is authorized and directed to furnish to the Workmen's Compensation Commission, upon request made by the Chairman or Vice Chairman, such information as the

Workmen's Compensation Commission deems necessary to carry out its functions under this section.

(f) Subject to such rules and regulations as may be adopted by the Workmen's Compensation Commission, the Chairman shall have the power to—

(1) appoint and fix the compensation of an executive director, and such additional staff personnel as he deems necessary, without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and without regard to the provisions of chapter 51 and subchapter III of chapter 53 of such title relating to classification and General Schedule pay rates, but at rates not in excess of the maximum rate for GS-18 of the General Schedule under section 5332 of such title, and

(2) procure temporary and intermittent services to the same extent as is authorized by section 3109 of title 5, United States Code.

(g) The Workmen's Compensation Commission is authorized to enter into contracts with Federal or State agencies, private firms, institutions, and individuals for the conduct of research or surveys, the preparation of reports, and other activities necessary to the discharge of its duties.

(h) Members of the Workmen's Compensation Commission shall receive compensation for each day they are engaged in the performance of their duties as members of the Workmen's Compensation Commission at the daily rate prescribed for GS-18 under section 5332 of title 5, United States Code, and shall be entitled to reimbursement for travel, subsistence, and other necessary expenses incurred by them in the performance of their duties as members of the Workmen's Commission.

(i) There are hereby authorized to be appropriated such sums as may be necessary to carry out the provisions of this section.

(j) On the ninetieth day after the date of submission of its final report to the President, the Workmen's Compensation Commission shall cease to exist.

ECONOMIC ASSISTANCE TO SMALL BUSINESSES

Sec. 28. (a) Section 7(b) of the Small Business Act, as amended, is amended—

[*Editor's Note:* Small Business Act amendments, P.L. 93-237, approved January 2, 1974, repealed section 7(b)(6) of the Small Business Act. These amendments, in effect, repealed sections 28(a)(b) and (c) of the Occupational Safety and Health Act. The amended section 7(b)(5) of the Small Business Act is as follows:

"'(5) to make such loans (either directly or in cooperation with banks or other lending institutions through agreements to participate on an immediate or deferred basis) as the Administration may determine to be necessary or appropriate to assist any small business concern in effecting additions to or alterations in its plant, facilities, or methods of operation to meet requirements imposed on such concern pursuant to any Federal law, any State law enacted in conformity therewith, or any regulation or order of a duly authorized, Federal, State, regional, or local agency issued in conformity with such Federal law, if the Administration determines that such concern is likely to suffer substantial economic injury without assistance under this paragraph: *Provided*, That the maximum loan made to any small business concern under this paragraph shall not exceed the maximum loan which, under rules or regulations prescribed by the Administration, may be made to any business enterprise under paragraph (1) of this subsection; and".]

(d) Loans may also be made or guaranteed for the purposes set forth in section 7(b) (5) of the Small Business Act, as amended, pursuant to the provisions of section 202 of the Public Works and Economic Development Act of 1965, as amended. [amended by P.L. 93-237, January 2, 1974]

ADDITIONAL ASSISTANT SECRETARY OF LABOR

Sec. 29. (a) Section 2 of the Act of April 17, 1946 (60 Stat. 91) as amended (29 U.S.C. 553) is amended by—

(1) striking out "four" in the first sentence of such section and inserting in lieu thereof "five"; and

(2) adding at the end thereof the following new sentence, "One of such Assistance Secretaries shall be an Assistant Secretary of Labor for Occupational Safety and Health."

(b) Paragraph (20) of section 5315 of title 5, United States Code, is amended by striking out "(4)" and inserting in lieu thereof "(5)".

ADDITIONAL POSITIONS

Sec. 30. Section 5108(c) of title 5, United States Code, is amended by—

(1) striking out the word "and" at the end of paragraph (8);

(2) striking out the period at the end of paragraph (9) and inserting in lieu thereof a semicolon and the word "and"; and

(3) by adding immediately after paragraph (9) the following new paragraph:

"(10) (A) the Secretary of Labor, subject to the standards and procedures prescribed by this chapter, may place an additional twenty-five positions in the Department of Labor in GS-16, 17, and 18 for the purposes of carrying out his responsibilities under the Occupational Safety and Health Act of 1970;

"(B) the Occupational Safety and Health Review Commission, subject to the standards and procedures prescribed by this chapter, may place ten positions in GS-16, 17, and 18 in carrying out its functions under the Occupational Safety and Health Act of 1970."

EMERGENCY LOCATOR BEACONS

Sec. 31. Section 601 of the Federal Aviation Act of 1958 is amended by inserting at the end thereof a new subsection as follows:

"EMERGENCY LOCATOR BEACONS"

"(d) (1) Except with respect to aircraft described in paragraph (2) of this subsection, minimum standards pursuant to this section shall include a requirement that emergency locator beacons shall be installed—

"(A) on any fixed-wing, powered aircraft for use in air commerce the manufacture of which is completed, or which is imported into the United States, after one year following the date of enactment of this subsection; and

"(B) on any fixed-wing, powered aircraft used in air commerce after three years following such date.

"(2) The provisions of this subsection shall not apply to jet-powered aircraft; aircraft used in transportation (other than air taxis and charter aircraft); military aircraft; aircraft used solely for training purposes not involving flights more than twenty miles from its base; and aircraft used for the aerial application of chemicals."

SEPARABILITY

Sec. 32. If any provision of this Act, or the application of such provision to any person or circumstance, shall be held invalid, the remainder of this Act, or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby.

APPROPRIATIONS

Sec. 33. There are authorized to be appropriated to carry out this Act for each fiscal year such sums as the Congress shall deem necessary.

EFFECTIVE DATE

Sec. 34. This Act shall take effect one hundred and twenty days after the date of its enactment.

GUIDE TO STATUTE

This table lists by U.S. Code section the Occupational Safety and Health Act of 1970. In the second column are listed the corresponding section numbers of the statute as originally enacted by Congress. Where no U.S. Code citation is listed for a section, that section is not codified in the U.S. Code.

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U.S. Code Sec.	*Statute Sec.*
—	1
29 USC 651	2
29 USC 651 (1)-(13)	2(b)(1)-(b)(13)
29 USC 652	3
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29 USC 654	5
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29 USC 660	11
29 USC 661 (a), (b)	12(a), (b)
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29 USC 661(d)	12(e)
29 USC 661(e)	12(f)
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29 USC 661(g)	12(h)
29 USC 661(h)	12(i)
29 USC 661(i)	12(j)
29 USC 661(j)	12(k)
29 USC 662	13
29 USC 663	14

OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (contd.)

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29 USC 664	15
29 USC 665	16
29 USC 666(a)	17(a)
29 USC 666 (b)-(g)	17(b)-(g)
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29 USC 666(h)	17(i)
29 USC 666(i)	17(j)
29 USC 666(j)	17(k)
29 USC 666(k)	17(l)
29 USC 667	18
29 USC 668(a), (b)	19(a), (b)
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29 USC 668(c)	19(d)
29 USC 669	20
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29 USC 676	27
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List of Occupational Safety and Health Standards

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1910.4 Amendments to this part.
1910.5 Applicability of standards.
1910.6 Incorporation by reference.

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1910.12 Construction work.
1910.13 Ship repairing.
1910.14 Shipbuilding.
1910.15 Shipbreaking.
1910.16 Longshoring.
1910.17 Effective dates.
1910.18 Changes in established Federal standards.
1910.19 Special provisions for air contaminants

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1910.20 Preservation of records.

Subpart D—Walking—Working Surfaces

1910.21 Definitions.
1910.22 General requirements.
1910.23 Guarding floor and wall openings and holes.
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1910.25 Portable wood ladders.
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1910.32 Standards organizations.

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Authority: The provisions of this Part 1910 issued under secs. 6(a), 8(g), 84 Stat. 1593, 1599; 29 U.S.C. 655, 657, unless otherwise noted.

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List of Safety and Health Regulations For Construction

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Authority: The provisions of this Part 1926 issued under sec. 1, 83 Stat. 96, 97, adding sec. 107 to Public Law 87-581, 76 Stat. 357; 40 U.S.C. 333.

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OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS FOR RECORDING AND REPORTING OCCUPATIONAL INJURIES AND ILLNESSES

(Code of Federal Regulations, Title 29, Chapter XVII, Part 1904, 36 FR 12612, July 2, 1971; amended at 37 FR 736, January 18, 1972; 37 FR 2439, February 1, 1972; 37 FR 20822, October 4, 1972; 42 FR 38567, July 29, 1977; 42 FR 65164, December 30, 1977; 43 FR 31324, July 21, 1978)

Title 29—LABOR

Chapter XVII—Occupational Safety and Health Administration, Department of Labor

PART 1904—RECORDING AND REPORTING OCCUPATIONAL INJURIES AND ILLNESSES

The new Part 1904 reads as follows:

Sec.

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1904.3 Period covered.
1904.4 Supplementary record.
1904.4a Temporary rules.
1904.5 Annual summary.
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1904.21 Duties of employers
1904.22 Effect of State plans.

AUTHORITY: The provisions of this Part 1904 issued under secs. 8(c)(1), (2), 8(g)(2), and 24(e), 84 Stat. 1599, 1600, 1615; 29 U.S.C. 657, 673.

§ 1904.1 Purpose and scope.

The regulations in this part implement sections 8(c)(1), (2), 8(g)(2), and 24 (a) and (e) of the Occupational Safety and Health Act of 1970. These sections provide for recordkeeping and reporting by employers covered under the act as necessary or appropriate for enforcement of the act, for developing information regarding the causes and prevention of occupational accidents and illnesses, and for maintaining a program of collection, compilation, and analysis of occupational safety and health statistics. The regulations in this Part were promulgated with the cooperation of the Secretary of Health, Education, and Welfare.

§ 1904.2 Log and summary of occupational injuries and illnesses.

(a) Each employer shall, except as provided in paragraph (b) of this section, (1) maintain in each establishment a log and summary of all recordable occupational injuries and illnesses for that establishment; and (2) enter each recordable injury and illness on the log and summary as early as practicable but no later than 6 working days after receiving information that a recordable injury or illness has occurred. For this purpose form OSHA No. 200 or an equivalent which is as readable and comprehensible to a person not familiar with it shall be used. The log and summary shall be completed in the detail provided in the form and instructions on form OSHA No. 200.

(b) Any employer may maintain the log of occupational injuries and illnesses at a place other than the establishment or by means of data-processing equipment, or both, under the following circumstances:

(1) There is available at the place where the log is maintained sufficient information to complete the log to a date within 6 working days after receiving information that a recordable case has occurred, as required by paragraph (a) of this section.

(2) At each of the employer's establishments, there is available a copy of the log which reflects separately the injury and illness experience of that establishment complete and current to a date within 45-calendar days.

[1904.2 amended at 37 FR 736, January 18, 1972; 42 FR 65164, December 30, 1977]

§ 1904.3 Period covered.

Records shall be established on a calendar year basis.

[1904.3 amended at 42 FR 65164, December 30, 1977]

§ 1904.4 Supplementary record.

In addition to the log and summary of occupational injuries and illnesses provided for under §1904.2, each employer shall have available for inspection at each establishment within 6 working days after receiving information that a recordable case has occurred, a supplementary record for each occupational injury or illness for that establishment. The record shall be completed in the detail prescribed in the instructions accompanying Occupational Safety and Health Administration Form OSHA No. 101. Workmen's compensation, insurance, or other reports are acceptable alternative records if they contain the information required by Form OSHA No. 101. If no acceptable alternative record is maintained for other purposes, Form OSHA No. 101 shall be used or the necessary information shall be otherwise maintained.

[1904.4 amended at 37 FR 736, January 18, 1972, 42 FR 65164, December 30, 1977]

§ 1904.5 Annual summary.

(a) Each employer shall post an annual summary of occupational injuries and illnesses for each establishment. This summary shall consist of a copy of the year's totals from the form OSHA No. 200 and the following information from that form: calendar year covered, company name, establishment name, establishment address, certification signature, title, and date. A form OSHA No. 200 shall be used in presenting the summary. If no injuries or illnesses occurred in the year, zeros must be entered on the totals line, and the form must be posted.

(b) The summary shall be completed by February 1 beginning with calendar year 1979. The summary of 1977 calendar-year's occupational injuries and illnesses shall be posted on form OSHA No. 102.

(c) Each employer, or the officer or employee of the employer who supervises the preparation of the log and summary of occupational injuries and illnesses, shall certify that the annual summary of occupational injuries and illnesses is true and complete. The certification shall be accomplished by affixing the signature of the employer, or the officer or employer who supervises the preparation of the annual summary of

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occupational injuries and illnesses, at the bottom of the last page of the log and summary or by appending a separate statement to the log and summary certifying that the summary is true and complete.

(d) (1) Each employer shall post a copy of the establishment's summary in each establishment in the same manner that notices are required to be posted under § 1903.2(a)(1) of this chapter. The summary covering the previous calendar year shall be posted no later than February 1, and shall remain in place until March 1. For employees who do not primarily report for work at a single establishment, or who do not report to any fixed establishment on a regular basis, employers shall satisfy this posting requirement by presenting or mailing a copy of the summary portion of the log and summary during the month of February of the following year to each such employee who receives pay during that month. For multi-establishment employers where operations have closed down in some establishments during the calendar year, it will not be necessary to post summaries for those establishments.

[1904.5 amended at 37 FR 736, January 18, 1972; 37 FR 20822, October 4, 1972; 42 FR 65164, December 30, 1977]

(2) A failure to post a copy of the establishment's annual summary may result in the issuance of citations and assessment of penalties pursuant to sections 9 and 17 of the Act.

[37 FR 763, January 18, 1972, effective February 17, 1972]

§ 1904.6 Retention of records.

Records provided for in §§ 1904.2, 1904.4, and 1904.5 (including form OSHA No. 200 and its predecessor forms OSHA No. 100 and OSHA No. 102) shall be retained in each establishment for 5 years following the end of the year to which they relate.

[1904.6 amended at 42 FR 65164, December 30, 1977]

§ 1904.7 Access to records.

(a) Each employer shall provide, upon request, records provided for in §§ 1904.2, 1904.4, and 1904.5, for inspection and copying by any representative of the Secretary of Labor for the purpose of carrying out the provisions of the act, and by representatives of the Secretary of Health, Education, and Welfare during any investigation under section 20(b) of the act, or by any representative of a State accorded jurisdiction for occupational safety and health inspections or for statistical compilation under sections 18 and 24 of the act.

(b) (1) The log and summary of all recordable occupational injuries and illnesses (OSHA No. 200) (the log) provided for in § 1904.2 shall, upon request, be made available by the employer to any employee, former employee, and to their representatives for examination and copying in a reasonable manner and at reasonable times. The employee, former employee, and their representatives shall have access to the log for any establishment in which the employee is or has been employed.

(2) Nothing in this section shall be deemed to preclude employees and employee representatives from collectively bargaining to obtain access to information relating to occupational injuries and illnesses in addition to the information made available under this section.

(3) Access to the log provided under this section shall pertain to all logs retained under the requirements of § 1904.6.

[1904.7 amended effective August 21, 1978, at 43 FR 31324, July 21, 1978]

§ 1904.8 Reporting of fatality or multiple hospitalization accidents.

Within 48 hours after the occurrence of an employment accident which is fatal to one or more employees or which results in hospitalization of five or more employees, the employer of any employees so injured or killed shall report the accident either orally or in writing to the nearest office of the Area Director of the Occupational Safety and Health Administration, U.S. Department of Labor. The reporting may be by telephone or telegraph. The report shall relate the circumstances of the accident, the number of fatalities, and the extent of any injuries. The Area Director may require such additional reports, in writing or otherwise, as he deems necessary, concerning the accident.

§ 1904.9 Initials—falsification—failure to keep records or reports.

(a) Section 17(g) of the Act provides that "Whoever knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this Act shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment, for not more than 6 months or both."

(b) Failure to maintain records or file reports required by this part, or in the details required by forms and instructions issued under this part, may result in the issuance of citations and assessment of penalties as provided for in sections 9, 10, and 17 of the Act.

[37 FR 736, January 18, 1972]

§ 1904.10 Recordkeeping under approved State plans.

Records maintained by an employer and reports submitted pursuant to, and in accordance with the requirements of an approved State plan under section 18 of the act shall be regarded as compliance with this Part 1904.

§ 1904.11 Change of ownership.

Where an establishment has changed ownership, the employer shall be responsible for maintaining records and filing reports only for that period of the year during which he owned such establishment. However, in the case of any change in ownership, the employer shall preserve those records, if any, of the prior ownership which are required to be kept under this part. These records shall be retained at each establishment to which they relate, for the period, or remainder thereof, required under § 1904.6.

§ 1904.12 Definitions.

(a) "Act" means the Williams-Steiger Occupational Safety and Health Act of 1970 (84 Stat. 1590 et seq., 29 U.S.C. 651 et seq.).

(b) The definitions and interpretations contained in section (2) of the Act shall be applicable to such terms when used in this Part 1904.

(c) "Recordable occupational injuries or illnesses" are any occupational injuries or illnesses which result in:

(1) Fatalities, regardless of the time between the injury and death, or the length of the illness; or

(2) Lost workday cases, other than fatalities, that result in lost workdays; or

(3) Nonfatal cases without lost workdays which result in transfer to another job or termination of employment, or require medical treatment (other than first aid) or involve loss of consciousness or restriction of work or motion. This category also includes any diagnosed occupational illnesses which are reported to the employer but are not classified as fatalities or lost workday cases.

(d) "Medical treatment" includes treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even though provided by a physician or registered professional personnel.

(e) "First Aid" is any one-time treatment, and any followup visit for the purpose of observation, of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care. Such one-time treatment, and followup visit for the purpose of observation, is considered first aid even though provided by a physician or registered professional personnel.

(f) "Lost workdays:" The number of days (consecutive or not) after, but not including, the day of injury or illness during which the employee would have worked but could not do so; that is, could not perform all or any part of his normal assignment during all or any part of the workday or shift, because of the occupational injury or illness.

(g) (1) "Establishment:" A single physical location where business is conducted or where services or industrial operations are performed. (For example: a factory, mill, store, hotel, restaurant, movie theater, farm, ranch, bank, sales office, warehouse, or central administrative office.) Where distinctly separate activities are performed at a single physical location (such as contract construction activities operated from the same

physical location as a lumber yard), each activity shall be treated as a separate establishment.

(2) For firms engaged in activities such as agriculture, construction, transportation, communications, and electric, gas and sanitary services, which may be physically dispersed, records may be maintained at a place to which employees report each day.

(3) Records for personnel who do not primarily report or work at a single establishment, and who are generally not supervised in their daily work, such as traveling salesmen, technicians, engineers, etc., shall be maintained at the location from which they are paid or the base from which personnel operate to carry out their activities.

[37 FR 20822, October 4, 1972, effective November 3, 1972]

§ 1904.13 Petitions for recordkeeping exceptions.

(a) *Submission of petition.* Any employer who wishes to maintain records in a manner different from that required by this part may submit a petition containing the information specified in paragraph (c) of this section to the Regional Commissioner of the Bureau of Labor Statistics wherein the establishment involved is located.

(b) *Opportunity for comment.* Affected employees or their representatives shall have an opportunity to submit written data, views, or arguments concerning the petition to the Regional Commissioner involved within 10 working days following the receipt of notice under paragraph (c) (5) of this section.

(c) *Contents of petition.* A petition filed under paragraph (a) of this section shall include:

(1) The name and address of the applicant;

(2) The address of the place or places of employment involved;

(3) Specifications of the reasons for seeking relief;

(4) A description of the different recordkeeping procedures which are proposed by the applicant;

(5) A statement that the applicant has informed his affected employees of the petition by giving a copy thereof to them or to their authorized representative and by posting a statement giving a summary of the petition and by other appropriate means. A statement posted pursuant to this subparagraph shall be posted in each establishment in the same manner that notices are required to be posted under § 1903.2(a) of this chapter. The applicant shall also state that he has informed his affected employees of their rights under paragraph (b) of this section;

(6) In the event an employer has more than one establishment he shall submit a list of the States in which such establishments are located and the number of establishments in each such State. In the further event that certain of the employer's establishments would not be affected by the petition, the employer shall identify every establishment which would be affected by the petition and give the State in which they are located.

[37 FR 736, January 18, 1972]

(d) *Referrals to Assistant Commissioner.* Whenever a Regional Director receives a petition from an employer having one or more establishments beyond the geographic boundary of his region, or a petition from a class of employers having any establishment beyond the boundary of his region, he shall refer the petition to the Assistant Commissioner for action.

(e) *Additional Notice, Conferences.* (1) In addition to the actual notice provided for in paragraph (c)(5) of this section, the Assistant Commissioner, or the Regional Director, as the case may be, may provide, or cause to be provided, such additional notice of the petition as he may deem appropriate.

(2) The Assistant Commissioner or the Regional Director, as the case may be, may also afford an opportunity to interested parties for informal conference or hearing concerning the petition.

(f) *Action.* After review of the petition, and of any comments submitted in regard thereto, and upon completion of any necessary appropriate investigation concerning the petition, if the Regional Director or the Assistant Commissioner, as the case may be, finds that the alternative procedure proposed will not hamper or interfere with the purposes of the Act and will provide equivalent information, he may grant the petition subject to such conditions as he may determine appropriate, and subject to revocation for cause.

(g) *Publication.* Whenever any relief is granted to an applicant under this Act, notice of such relief, and the reasons therefor, shall be published in the FEDERAL REGISTER.

(h) *Revocation.* Whenever any relief under this section is sought to be revoked for any failure to comply with the conditions thereof, an opportunity for informal hearing or conference shall be afforded to the employers and affected employees, or their representatives. Except in cases of willfulness or where public safety or health requires otherwise, before the commencement of any such informal proceeding, the employer shall: (1) Be notified in writing of the facts or conduct which may warrant the action; and (2) be given an opportunity to demonstrate or achieve compliance.

(i) *Compliance after submission of petitions.* The submission of a petition or any delay by the Regional Director, or the Assistant Commissioner, as the case may be, in acting upon a petition shall not relieve any employer from any obligation to comply with this part. However, the Regional Director or the Assistant Commissioner, as the case may be, shall give notice of the denial of any petition within a reasonable time.

(j) *Consultation.* There shall be consultation between the appropriate representatives of the Occupational Safety and Health Administration and the Bureau of Labor Statistics in order to insure the effective implementation of this section.

§ 1904.14 Employees not in fixed establishments.

Employers of employees engaged in physically dispersed operations such as occur in construction, installation, repair or service activities who do not report to any fixed establishment on a regular basis but are subject to common supervision may satisfy the provisions of §§ 1904.2, 1904.4, and 1904.6 with respect to such employees by:

(a) Maintaining the required records for each operation or group of operations which is subject to common supervision (field superintendent, field supervisor, etc.) in an established central place;

(b) Having the address and telephone number of the central place available at each worksite; and

(c) Having personnel available at the central place during normal business hours to provide information from the records maintained there by telephone and by mail.

[1904.14 added at 37 FR 20822, October 4, 1972, effective January 1, 1973]

§ 1904.15 Small employers.

An employer who had no more than ten (10) employees at any time during the calendar year immediately preceding the current calendar year need not comply with any of the requirements of this part except the following:

(a) Obligation to report under § 1904.8 concerning fatalities or multiple hospitalization accidents; and

(b) Obligation to maintain a log and summary of occupational injuries and illnesses under § 1904.2 and to make reports under § 1904.21 upon being notified in writing

by the Bureau of Labor Statistics that the employer has been selected to participate in a statistical survey of occupational injuries and illnesses.

[1904.15 added at 37 FR 20822, October 4, 1972, effective November 3, 1972; amended at 42 FR 38567, July 29, 1977; 42 FR 65164, December 30, 1977]

§ 1904.20 Description of statistical program.

(a) Section 24 of the Act directs the Secretary of Labor, in consultation with the Secretary of Health, Education, and Welfare, to develop and maintain a program of collection, compilation, and analysis of occupational safety and health statistics. The Commissioner of the Bureau of Labor Statistics has been delegated this authority by the Secretary of Labor. The program shall consist of periodic surveys of occupational injuries and illnesses.

[1904.20 added at 37 FR 2439, February 1, 1972; amended at 42 FR 65164, December 30, 1977]

§ 1904.21 Duties of employers.

Upon receipt of an Occupational Injuries and Illnesses Survey Form, the employer shall promptly complete the form in accordance with the instructions contained therein, and return it in accordance with the aforesaid instructions.

[1904.21 added at 37 FR 2439, February 1, 1972, amended at 42 FR 65164, December 30, 1977]

§ 1904.22 Effect of State plans.

Nothing in any State plan approved under section 18(c) of the Act shall affect the duties of employers to submit statistical report forms under § 1904.21.

[1904.22 added at 37 FR 2439, February 1, 1972]

Summary of NIOSH Recommendations for Occupational Health Standards — April 1976

Substance	*Transmitted to OSHA*	*Current OSHA Environmental Standard*	*NIOSH Recommendation for Environmental Exposure Limit*	*Health Effect Considered*	*Comments*
Ammonia	July 15, 1974	50 ppm: 8-hr TWA	50 ppm ceiling (5-minute)	Airway Irritation	Hazardous liquid eye damage
Arsenic, Inorganic	January 21, 1974 Revised June 23, 1975	0.5 mg As/cu m TWA	2 μg As/cu m ceiling (15-minute)	Dermatitis, Lung Cancer	Chest X-rays required
Asbestos	January 21, 1972	5 fibers/cc (8-hr TWA); 5 fibers/cc, 5-hr TWA effective July 1, 1976 10 fiber/cc ceiling	2 fibers/cc 5 microns 10 fibers/cc ceiling (15-minute)	Asbestosis, Lung Cancer	Federal standard promulgated July 7, 1972. NIOSH reconsidering environmental limit
Benzene	July 24, 1974	10 ppm, 8-hr TWA	10 ppm TWA 25 ppm ceiling (10-minute)	Blood changes, possible leukemia	Urine monitoring required
Beryllium	June 30, 1972 Revised December 10, 1975	2 μg/cu m, 8-hr TWA 25 μg/cu m ceiling 30 minute sample	2 μg/cu m ceiling 25 μg/cu m ceiling	Chronic lung disease (berylliosis); lung cancer	Chest X-ray required
Carbon Monoxide	August 3, 1972	50 ppm, 8-hr TWA	35 ppm TWA 200 ppm ceiling	Heart effects	
Carbon Tetrachloride	December 22, 1975	10 ppm, 8-hr TWA 200 ppm ceiling, (5-minute)	2 ppm TWA	Liver damage	NIOSH Reevaluating Environmental limit
Chloroform	September 11, 1974	50 ppm ceiling	10 ppm TWA	Central nervous system and liver effects	Current Federal standard should be TWA; published "C" in error. NIOSH reevaluating environmental limit
Chromic Acid	July 17, 1973	1 mg/10 cu m ceiling	.05 mg CrO_3/cu m TWA .1 mg CrO_3/cu m ceiling (15-minute)	Nasal ulcerations	
Chromium (VI)	December 1, 1975	100 μg/10 cu m ceiling	1 μg/cu m carcinogenic, Cr (VI); 25 μg/cu m TWA other Cr (VI); 50 μg/cu m ceiling (15-minute)	Lung cancer skin ulcers lung irritation	Employer must demonstrate absence of carcinogenic Cr (VI); X-ray required
Coke Oven Emissions	February 28, 1973	0.2 mg/cu m (Coal Tar Pitch Volatiles)	Work practices to minimize exposure to emissions	Tumors, primarily lung	Sputum cytology and chest X-ray required
Ethylene Dichloride	March 9, 1976	50 ppm, 8-hr TWA 200 ppm ceiling. 5-minute sample in any 3 hour	5 ppm TWA 15 ppm ceiling (15-minute)	Nervous system, respiratory, heart, liver effects	Nursing infants at risk
Fluorides, Inorganic	June 30, 1975	2.5 mg/cu m, 8-hr TWA	2.5 mg F/cu m TWA	Kidney and bone effects	Urine monitoring required
Hot Environments	June 30, 1972	None	Variable (sliding scale)	Heat stress	Acclimatization required

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Substance	Transmitted to OSHA	Current OSHA Environmental Standard	NIOSH Recommendation for Environmental Exposure Limit	Health Effect Considered	Comments
Hydrogen Fluoride	March 9, 1976	3 ppm, 8-hr TWA	2.5 mg F/cu m TWA 5.0 mg/cu m ceiling (15-minute, Fluoride Ion)	Skin/Eye/Airway irritation; Bone effects	Pelvic X-ray (male) and urine testing required
Isopropyl Alcohol	March 9, 1976	400 ppm, 8-hr TWA	400 ppm TWA, 800 ppm ceiling (15-minute)	Mucous membrane irritation. Possible cancer threat in manufacturing process	More stringent work practices and medical surveillance for manufacturing workers
Kepone	January 27, 1976	None	1 mg/cu m ceiling (15-minute)	Nervous system Effects: Liver cancer	Liver function testing required
Lead, Inorganic	January 5, 1973 Revised August 4, 1975	0.2 mg/cu m, 8-hr TWA	.05-15 mg/cu m	Nervous system effects	Urine or blood monitoring required
Mercury, Inorganic	January 5, 1973	0.1 mg/cu m ceiling	.05 mg/cu m TWA	Central nervous system and mental effects	
Methyl Alcohol	March 22, 1976	200 ppm TWA 500 ppm ceiling	200 ppm TWA; 500 ppm ceiling (15-minute)	Blindness Metabolic Acidosis	
Methylene Chloride	March 9, 1976	500 ppm, 8-hr TWA 1000 ppm ceiling	75 ppm TWA; 500 ppm ceiling,	Central nervous system effects.	Blood testing required
		2000 ppm maximum	(15-minute), TWA to be lowered presence of Carbon Monoxide	Carbon Monoxide toxicity	
Nitric Acid	March 9, 1976	2 ppm, 8-hr TWA	2 ppm TWA	Dental erosion, nasal/lung irritation	Hazardous liquid, eyes and skin. Chest X-ray required
Nitrogen, Oxides	March 22, 1976	NO_2: 5 ppm, 8-hr TWA	NO_2: 1 ppm ceiling	Airway effects	Pulmonary function testing required
		NO: 25 ppm, 8-hr TWA	NO: 25 ppm TWA	Blood effects	
Noise	August 10, 1972	90dBA, 8-hr TWA	85 dBA TWA 116 dBA ceiling	Hearing damage	
Phosgene	February 23, 1976	0.1 ppm, 8-hr TWA	0.1 ppm TWA: 0.2 ppm ceiling (15-minute)	Airway effects	Pulmonary function testing and X-ray required
Silica, Crystalline	November 11, 1974	250/%SiO + 5 fn mppcf, or 10 mg/cu m/%SiO + 2 (respirable quartz)	50 mg/cu m TWA, Respirable Free Silica	Chronic lung disease (Silicosis)	X-ray, pulmonary function testing required
Sodium Hydroxide	September 16, 1975	2 mg/cu m, 8-hr TWA	2 mg/cu m ceiling (15-minute)	Airway irritation	Hazardous liquid, eyes and skin
Sulfur Dioxide	February 11, 1974	5 ppm, 8-hr TWA	2 ppm TWA	Pulmonary irritation	
Sulfuric Acid	June 6, 1974	1 mg/cu m, 8-hr TWA	1 mg/cu m TWA	Pulmonary irritation	Hazardous liquid, eyes and skin

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Substance	Transmitted to OSHA	Current OSHA Environmental Standard	NIOSH Recommendation for Environmental Exposure Limit	Health Effect Considered	Comments
Toluene	July 23, 1973	200 ppm, 8-hr TWA 300 ppm ceiling	100 ppm TWA: 200 ppm ceiling (10-minute)	Central nervous system depressant	
Toluene Diisocyanate	July 13, 1973	.02 ppm ceiling	.005 TWA: .02 ceiling (20 minute)	Airway effects	Chest X-rays, blood tests, pulmonary function testing required
Trichloroethylene	July 23, 1973	100 ppm, 8-hr TWA 300 ppm ceiling, 5-minute in any 2 hours	100 ppm TWA 150 ppm ceiling (10-minute)	Central nervous system depressant	NIOSH reevaluating environmental limit
Ultraviolet Radiation	December 20, 1972	10 mW/cm averaged over any 1-hour period	1.0 mW/cm for over 1000 sec., 100 mW sec/cm for periods under 1000 sec.	Skin and eye effects	
Vinyl Chloride	March 11, 1974	1 ppm, 8-hr TWA: 5 ppm ceiling, (15-minute sample)	Minimum detectable level 1 ppm ceiling (15-minute)	Liver cancer	Standard promulgated October 4, 1974. Liver function testing required
Xylene	May 23, 1973	100 ppm, 8-hr TWA	100 ppm TWA: 200 ppm ceiling (10-minute)	Central nervous system depressant; irritation	
Zinc Oxide	October 10, 1973	5 mg/cu m, 8-hr TWA	5 mg/cu m TWA, 15 mg/cu m ceiling (15-minute)	Metal fume fever	

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Schedule of Development of Standards Criteria Documents

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

Division of Criteria Documentation and Standards Development

Schedule of Development for Criteria Documents

The following lists are attached. 1. A brief discussion of the process used by NIOSH in developing criteria documents. 2. List of hazardous agents for which criteria documents and recommended standards have been developed. 3. List of hazardous agents for which criteria documents and recommended standards are planned for development. This is a working list and completion of any one document is subject to the availability of information sufficient to form rational, scientifically based recommendations for standards. 4. Also included are candidate hazards from which future commitments for criteria documents will be made. Factors considered in such selections include: whether or not a standard exists; suspicion as to carcinogenic, mutagenic or teratogenic potential; new information indicating the existence of a potential hazard or degree of severity previously unsuspected; the number of workers estimated to be exposed; and an estimate of the potential severity of the hazard under consideration. At the current time pesticides and physical agents are not included pending evaluation and further definition of need in these areas.

Please address all inquiries or comments concerning this activity to Mr. Vernon E. Rose, Rockville, Maryland (301-443-3680).

CRITERIA DOCUMENT DEVELOPMENT PROCESS

National Institute for Occupational Safety and Health

The development of criteria documents as a basis for standards for the occupational exposure to chemical and physical hazards is a continuing activity of the National Institute for Occupational Safety and Health (NIOSH). These criteria documents are publications which are prepared from a critical evaluation of all known, relevant published or otherwise publicly available medical, biological, engineering, chemical, and trade information and data for the purpose of establishing a recommended occupational health standard including, but not limited to, the concentration of a substance in the occupational environment which has been found to cause no adverse effects in people exposed for a normal working lifetime. It is the goal of the Institute to identify in a candid and unbiased manner the injurious effects produced by an occupational hazard and to determine what amount of that hazard produced these effects. In pursuing this goal, all published or publicly available evidence that has been found or that has been offered to the Institute

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in response to requests through the *Federal Register* is collected and reviewed. All evidence is carefully reviewed to determine what hazardous effects are relevant in developing criteria for the proposed standards. The extent of hazard that produces the effects selected is then calculated from the best available data. The methods of sampling and analysis are evaluated to ensure that those selected can quantitate the substances in the concentrations that are expected to be found in the working environment. The first draft of a criteria document is then prepared for the second step in the critical review process. For certain documents, where the issues are found to be extremely complex, external consultation from others such as selected experts from universities is obtained prior to finalizing the first draft.

NIOSH recognizes the possibility of bias entering into the formulation process of these criteria documents. Professional bias can enter into the preparation by many different avenues through even the most well-meaning and honest efforts. Bias could occur from employment experiences, professional association and the selectivity of personal experiences. In order to reduce, as much as possible, any such bias, an advocate-adversary process has been developed. In the process, the advocate must present the evaluation of all potentially acceptable data and develop the rationale for the acceptance of the basis for the proposed standards that were selected in preference to other possibilities. The first draft is submitted and defended by the preparing advocates during the review and critique by professional occupational health personnel who have been selected not only for their experience with the subject of the document but also for their employment associations. This selection process is intended to include divergent views from that of the originators and the NIOSH staff and other disparate attitudes not already presented. The consultants selected for this review and critique should have had direct personal experience with control of the criteria document hazard and will reflect professional experience in occupational medicine, engineering, chemistry, toxicology or other pertinent sciences. Consultants are selected whose background is from industry, state or local government occupational health staffs, organized labor, and universities. The selected consultants should provide by this process a reasonably balanced group with strongly based experience. None of the selected participants shall have been involved in the initial formulation of the specific criteria document. Recognizing that NIOSH may also introduce bias through its various selection processes, societies whose membership includes experienced professionals in the occupational health field are invited to review the criteria document draft. The societies which have been involved include: Society of Toxicology, the American Industrial Hygiene Association, the American Occupational Medical Association, the American Conference of Governmental Industrial Hygienists, the American Academy of Occupational Medicine, the American Academy of Industrial Hygiene, the Society for Occupational and Environmental Health, and the American Medical Association. The only constraints placed upon the selection of reviewers by these organizations is that they be members of that particular organization and that they not have been involved in any of the other past or current preparation activities of the criteria document being reviewed. Additional viewpoints are solicited from governmental agencies which may have interest and experience in the control of occupational or environmental hazards.

Comments and critiques of all reviewers are organized with the final draft and are submitted to the Director of NIOSH for his review and critique. This step involves a thorough review by senior NIOSH professionals selected to provide the Director with a broad-cross section of experiences. The "criteria for a recommended standard for occupational exposure to..." (a hazardous substance) is readied after the Director's review and approval for transmittal to the Department of Labor. The final document does not necessarily, therefore, offer a true consensus view nor coincide with views of all of the reviewers.

The resulting criteria document thereby provides a valid detailed support for the standard as recommended by NIOSH for the Department of Health, Education, and Welfare to be used by the Department of Labor as a basis for its promulgation of a standard.

The recommendations are of course also then available to foreign, state and local governments as well as the general public for development of standards where the need may exist.

NIOSH Recommended Standards Developed under the Occupational Safety and Health Act

Substance	*Date Transmitted to DOL*
Ammonia	July 15, 1974
Arsenic Revised	January 21, 1974 June 23, 1975
Asbestos	January 21, 1972
Benzene	July 24, 1974
Beryllium	June 30, 1972
Carbon Monoxide	August 3, 1972
Carbon Tetrachloride	December 22, 1975
Chloroform	September 11, 1974
Chromic Acid	July 17, 1973
Chromium (VI)	December 1, 1975
Coke Oven Emissions	February 28, 1973
Cotton Dust	September 26, 1974
Emergency Egress from Elevated Workstations	December 1, 1975
Ethylene Dichloride	March 9, 1976
Fluorides	June 30, 1975
Hot Environments	June 30, 1972
Hydrogen Fluoride	March 9, 1976
Identification System for Occupationally Hazardous Materials	December 20, 1974

Substance	*Date Transmitted to DOL*
Inorganic Lead	January 5, 1973
Inorganic Mercury	August 13, 1973
Isopropyl Alcohol	March 9, 1976
Kepone	January 27, 1976
Methyl Alcohol	March 22, 1976
Methylene Chloride	March 9, 1976
Nitric Acid	March 9, 1976
Noise	August 10, 1972
Oxides of Nitrogen	March 22, 1976
Phosgene	February 23, 1976
Silica	November 11, 1974
Sodium Hydroxide	September 16, 1975
Sulfur Dioxide	February 11, 1974
Sulfuric Acid	June 6, 1974
Toluene	July 23, 1973
Toluene Diisocyanate	July 13, 1973
Trichloroethylene	July 23, 1973
Ultraviolet Radiation	December 20, 1972
Vinyl Chloride	March 11, 1974
Xylene	May 23, 1975
Zinc Oxide	October 10, 1975

Criteria Documents Planned for Completion in 1976

Acetylene
Acrylamide
Alkanes
Allyl Chloride
Anesthetic Gases
Aniline and Its Derivatives
Boron Trifluoride
Cadmium
Carbaryl
Carbon Dioxide
Carbon Disulfide
Chlorine
Cyanides

Dioxane
Epichlorohydrin
Fibrous Glass
Fluorine
Formaldehyde
Logging (Felling to First Haul)
Malathion
Methyl Parathion
Nickel and Its Inorganic Compounds (Nickel Carbonyl)
Organotin Compounds
Parathion
Phenol
Phosphine
Phosphorous
Refined Petroleum (including Kerosene, Stoddard Solvent, Petroleum Naptha, Mineral Spirits)
Tetrachloroethylene (Perchloroethylene)
1,1,2,2-Tetrachloroethane (Acetylene Tetrachloride)
1,1,1-Trichloroethane (Methyl Chloroform)

Criteria Documents Planned for Completion in 1977

Antimony Compounds
Asphalt Fumes
Benzoyl Peroxide
Chloroprene
Coal Tar Products (including Coal Tar Pitch, Creosote, Indene)
Cresols (including Cresylic Acid)
Ethylene Dibromide
Fluorocarbons (including Dibromodifluoromethane)
Hydrazines
Hydrogen Sulfide
Hydroquinone
Ketones
Methyl Silicate
Nitroglycerine/Ethylene Glycol Dinitrate
Oil Mists
o-Tolidine
Polychlorinated Biphenyls
Polytetrafluoroethylene Decomposition Products
Portland Cement
Styrene
Thallium and Its Compounds
Tungsten and Its Compounds
Vanadium and Its Compounds
Vinyl Acetate; Vinylidene Chloride; Vinyl Bromide
Zinc Chloride

Candidate Substances for Development in 1978-79

Acetaldehyde
Alkali Metal Hydroxides
Ammonium Nitrate
Boron Compounds
Bromine Pentafluoride
Carbon Black
Chromium [excluding Chromium (VI)]
Dialkyl Ethers
Diazomethane
Dibutyl Phosphate
Dichloroacetylene
Furfuryl Alcohol
Glycidyl Ethers
Indium and Its Compounds
Iron and Its Compounds (includes Rouge)
Isobutyl Alcohol; Amyl Alcohol
Magnesium and Its Compounds
Mercaptans
p-Dichlorobenzene
Phenothiazine

664-030005

FINAL REPORT, PART B, SECTION 2

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Report - Part 2

OSHA Standards

SUBPART A - GENERAL

SECTION - 1910.1 - Purpose and Scope

The purpose of this Act is to assure that every worker will be provided with a safe and healthful working environment. The scope is to include all workers not presently covered by other Federal Acts, such as coal mining and will exclude workers involved specifically in Agricultural work.

SECTION - 1910.2 - Definitions

SECTION - 1910.3 - Petitions for the Issuance, Amendment, or Repeal of a Standard

Any interested person may petition in writing the Assistant Secretary of Labor to promulgate, modify, or revoke a standard.

This section points out congressional recognition of the American National Standards Institute and the National Fire Protection Association as the major sources of the national consensus standards. However, any organization which deems itself a producer of national consensus standards, within the meaning of Section 3(9) of the Act, is invited to submit in writing to the Assistant Secretary of Labor at any time prior to February 1, 1973, all relevant information to determine whether any of its standards satisfy the requirements of the definition of "national consensus standard" in Section 3(9) of the Act.

Such submissions will be published and interested persons will be given reasonable opportunity to present written data, views, or arguments with regard to the question whether any standards of the organization making the submission are national consensus standards.

SECTION 1910.4 - Amendments to this Part

The Act authorizes the Secretary of Labor, until April 28, 1973, to promulgate as occupational safety and health standards any existing Federal Standard (such as those presently applying to Federal contractors under the Walsh-Healy Act) or any national consensus standard (such as those issued by the National Protectic Association).

In addition, the Secretary of Labor may, upon the basis of information submitted by the Secretary of Health, Education and Welfare, advisory committees and other, revise, modify and revoke existing standard as well as promulgate new ones.

SECTION 1910.5 - Applicability of Standards

In general, job safety and health standards consist of rules for avoidance of hazards which have been proven by research and experience to be harmful to personal safety and health. They constitute an extension compilation of wisdom which sometimes applies to all employees. An example of this would be fire protection standards. A great many standards, however, apply only to workers while engaged in specific types of work, such as handling compressed gases.

Two of the many thousands of occupational safety and health standards here to familiarize covered employers with the forms of such standards.

(a) One typical standard - Aisles and passageways shall be kept clear and in good repair, with no obstruction across or in aisles that could create a hazard.

(b) Another typical standard - In any operation such as chipping, caulking, drilling, riveting, grinding and pouring babbitt metal, in which the eye hazard of flying particles, molton metal, or liquid chemical exists, employees shall be protected by suitable face shields or goggles.

It is the obligation of all employers and employees to familiarize themselves with those standards which apply to them and to observe them at all times.

SECTION - 1910.6 - Incorporation by Reference

Copies of standards which are incorporated by reference may be examined at the National Office of the Occupational Safety and Health Administration, U.S. Department of Labor, Washington, D.C. 20210, or at any of its regional offices. Copies of such private standards may be obtained from the issuing organizations.

Names and addresses are listed in subparts. Example: Subpart E - 1910.40 "National Fire Protection Association, 60 Batterymarch Street, Boston, Mass. 02110."

SUBPART B - ADOPTION AND EXTENSION OF ESTABLISHED FEDERAL STANDARDS

SECTION 1910.11 - Scope and Purpose

This section makes certain Federal standards in effect as of April 28, 1971, as part of this Act.

SECTION 1910.12 - Construction Work

All standards in Part 1518 of Title 29 regulations pertaining to construction work are made a part of this Act. These standards must be complied with when involved in any construction activity. Refer to Section 1910.6 for information on how to obtain copies of Part 1518.

SECTION 1910.13 - Ship Repairing

SECTION 1910.14 - Shipbuilding

SECTION 1910.15 - Shipbreaking

SECTION 1910.16 - Longshoring

These sections deal with ship reparing, building, breaking and longshoring and are not generally applicable to the meat packing business.

SUBPART C - WALKING - WORKING SURFACES

SECTION 1910.21 - Definitions

SECTION 1910.22 - General Requirements

It should be noted that agricultural work and the handling of toxic materials are exempt from the provisions of this section.

Generally the sanitation and housekeeping requirements of the CM&S are more stringent than those cited in this section; however, all units are to check the condition of storerooms, aisles and passageways to determine that they are marked and maintained within the requirements of this Act. They must also determine the adequacy of handrails and covers at vats, pits, tanks and ditches. Approved floor loads shall be posted at conspicuous places in all industrial and storage areas, and these limits must not be exceeded.

SECTION - 1910.23 - Guarding Floor and Wall Openings and Holes

Every stairway, hatchway, ladder way, chute, floor opening, skylight, pit, trap door, temporary floor opening shall have protection provided to prevent a person from falling through the opening. This protection shall meet the requirements of Section 1910.23 of the OSHA Act. Where operating conditions necessitates the feeding of materials into any hatchway, protection shall be provided to prevent persons and objects from falling through the openings. Temporary openings shall have hand rails and toe boards as specified in Section 1910.23 Subparagraph (e).

Wall openings and holes where there is a drop of more than four feet shall be guarded by a rail, half door, or equivalent barrier. Grab handles are to be four feet above the floor as specified. Window openings, where there is a drop of more than four feet, shall be guarded by Standard grill work as specified.

Open sided floors four feet or more above adjacent floors shall be guarded by a Standard Railing and provided with a toe board as outlined in Section 1910.23 Subparagraph (c).

This does not refer to loading and unloading areas as operating conditions necessitate such omission and such areas are more than 18 inches wide which minimizes falling hazard. It does apply to machinery catwalks, tank car loading ramps, and runways, less than 18 inches wide used for special purposes. Toe boards shall be four inches wide with 1/4" clearance between toe board and floor.

Details for hand rails and toe boards are detailed in Section 1910.23.

SECTION 1910.24 - Fixed Industrial Stairs

This section applies specifically to fixed general industrial stairs and should not be applied to fire exits, stairs to construction areas, or articulated stairs.

Fixed stairs must be provided between all area which require frequent travel and must meet minimum specifications. It is particularly important to assure that stairs are in good repair, free from obstructions and have the proper had railings.

SECTION 1910.25 - Portable Wood Ladders

(a) Purchase specification (or construction requirements), maintenance and use of portable wood ladders are outlined or designated in this section. Purchase specifications of portable wood ladders shall conform to OSHA standards as outlined in Section 1910.25 (b) materials (c) construction requirements, for the use for which the ladder is intended.

Ladders must meet the requirements for use intended and stored in a manner to prevent warping, rotting, add deteriorating. The following inspection procedure will be followed:

(1) Joinings shall be tight.
(2) Bearings, joints, locks and pulleys are to operate properly.
(3) Safety feet are to be in good condition.
(4) Ladders are to have a protective coating.
(5) Ladders are to be clean.
(6) Ladders found to be unserviceable are to be withdrawn from service and tagged as unfit for use and promptly repaired or destroyed.

Employees are to be instructed in proper ladder use which includes:

(1) Horizontal distance between the top support and the foot of the ladder is 1/4 of the working length of the ladder.
(2) The footing and placement of ladders is to be sensibly handled.
(3) No ladder with missing or unsafe parts is to be used.
(4) Two section extension ladders up to 36 feet are to overlap a minimum of 3 feet, 36-48 feet are to overlap 4 feet, and 48-60 feet must overlap 5 feet.

(5) No ladder is to be used for roof access without a 3 foot extension above the roof.

(6) Extension ladders should be erected with the upper section resting on the lower.

SECTION 1910.26 - Portable Metal Ladders

This section outlines the general specifics of design and construction. All new ladders are to be procurred in line with Purchasing Department specifications for the use for which they are intended.

Ladders now in use should be checked and tested to determine their compliance with those specifications in particular that pertain to strenght, non-slip characteristics, size of top and pail shelf of step ladders, pulleys, locks, etc.

Those using ladders should be familiar with their proper usage and select the proper ladder for the job. A particular note of caution on the use of metal ladders near electrical outlets should be issued.

SECTION 1910.27 - Fixed Ladders

This section deals soley with permanent ladders fixed in place. Particular care should be taken to assure ladders are firmly fastened and properly designed to carry specified loads.

Wooden ladders are not allowed under any circumstances.

Ladders which do not presently meet specifications should be upgraded or replaced immediately. New or replacement ladders must meet OSHA specification. When fixed ladders are constructed on site, local management is responsible for assuring compliance. Permanent fixed ladders are to be constructed of metal.

Rungs of ladders must be 3/4 inch in diameter, and steps shall not exceed 12 inches and be uniform. Minimum clear length of rungs shall be 16 inches. Side rails shall be such cross section to afford adequate grip and have no sharp edges, splinters, or burrs.

SECTION 1910.28 - Safety Requirements for all Scaffolding

Specific types of scaffolding covered in this section are as follows:

(a) General requirements for all scaffolds
(b) General requirements for wood pole scaffolds
(c) Tube and coupler scaffolds
(d) Tubelar welded frame scaffolds
(e) Outrigger scaffold
(f) Mason's adjustable multiple point suspension scaffolds
(g) Two point suspension scaffolds (swinging scaffolds)
(h) Stone setters adjustable multiple-point suspension scaffolds
(i) Single-point adjustable suspension scaffolds
(j) Boatswain's chair
(k) Carpenter's bracket scaffolds
(l) Bricklayer's square scaffolds
(m) Horse scaffolds
(n) Needle beam scaffolds

(o) Plaster's, decorator's and large area scaffolds

(p) Interior hung scaffolds

(q) Ladder-jack scaffolds

(r) Window-jack scaffolds

(s) Roofing brackets

(t) Crawling boards or chicken ladders

(u) Float or ship scaffolds

SECTION 1910.29 - Manually Propelled Mobile Ladder Stands and Scaffolds (towers)

This section deals primarily with the rules and requirements for the design, construction, and use of mobile work platforms including ladder stands, but not aerial ladders.

Prior to the construction, purchase, or installation of any such mobile ladder stand or scaffold, the appropriate Section 1910.29 must be consulted and complied with.

SECTION 1910.30 - Other Working Surfaces

This section pertains to working surfaces not previously covered and includes dock boards, which applies to our operations.

Portable dock boards are to be substantially built and anchored into position or equipped with anti-slip devices, surfaces are to be of non-skid design. Powered dockboards are to be constructed to comply with "Commercial Standard" CS 202-56 (1956) Industrial Lifts and Hinged Loading Ramps - U.S. Department of Commerce.

When rail car dock boards are in position, positive means shall be taken to prevent card from being moved.

SUBPART D - MEANS OF EGRESS

SECTION 1910.35 - Definitions

SECTION 1910.36 - General Requirements

All buildings, new or old must be provided with exits sufficient to permit prompt escape for the occupants in the event of fire or other emergency. Exits must be clearly illuminated. If the exit is not readily visible the route to it must be marked so it can be easy followed. All routes approaching exits must be kept free from obstructions.

SECTION 1910.37 - Means of Egress, General

All exits must be enclosed with closures providing the proper fire resistance as specified in this section. Exits must be of adequate width to allow egress of all occupants in the immediate area. Exits must be located to minimize chance of any one fire or other emergency cutting off all egress. All exits must give direct access to a street or other open space. Note that any door or passage way that is not an exit must be clearly marked "Not An Exit" to avoid confusion in case of an emergency.

It is of particular importance that fire detection and alarm systems be maintained in good working order.

Automatic sprinkler systems must be kept in working condition at all times.

SECTION 1910.38 - Specific Means of Egress Requirements by Occupancy

Reserved

SECTION 1910.39 - Sources of Standards

SECTION 1910.40 - Standards Organizations

SUBPART E - POWERED PLATFORMS, MANLIFTS, AND VEHICLE-MOUNTED WORK PLATFORMS

SECTION 1910.66 - Power Platforms for Exterior Building Maintenance

This Section establishes safety requirements for the design, construction installation, operation, maintenance, inspection and use of power operated platforms for exterior building maintenance.

The requirements of this section do not apply to temporary equipment used for construction work; or to devices which are raised and lowered manually.

SECTION 1910.67 - Vehicle-Mounted Elevated and Rotating Work Platforms

This section applies to Vehicle-Mounted Aerial devices. These include extensible boom platforms, aerial ladders, articulating boom platforms, vertical towers or a combination of any of the above. It does not apply to fire fighting equipment.

SECTION 1910.68 - Manlifts

Manlifts covered by this section consist of platforms or brackets and hand holds mounted on an endless belt operating vertically.

SUBPART F - OCCUPATIONAL HEALTH
AND ENVIRONMENTAL CONTROL

SECTION 1910.93 - Air Contaminants (Gases, Vapors, Fumes, Dust and Mists)

The Act states that exposures by inhalation, ingestion, skin absorption or contact to any material or substance at a concentration above those specified in the "Threshold Limit Values of Air Borne Contaminants for 1970". As listed in the Act under table G-1 shall be avoided or protective equipment shall be provided and used.

To achieve compliance administrative or engineering controls must first be determined and implemented in all cases. Such protection must be approved for each specific application by a competent industrial hygienist.

For such problems the Field unit should refer to their respective division management for handling by the appropriate Safety Section.

SECTION 1910.94 - Ventilation

(a) Abrasive blasting, when used must be performed within the requirements of their section. With particular attention to personal protective equipment, ventilation, and dust hazards.

(b) Grinding, polishing and buffing operations. Every establishment performing dry grinding, dry polishing or buffing shall provide suitable hood or enclosures that are connected to exhaust systems. Such exhaust systems shall be operated continuously

whenever such operations are carried on, and be capable of preventing contaminants from entering the breathing zone.

Grinding wheels on floor stands, pedestals and benches shall be connected to exhaust systems and shall not have less than the minimum exhaust volumes shown in Table G-4 with a recommended minimum duct velocity of 4500 ft./min. Wire scratch brush wheels up to a 9 inch diameter and 2 inch wide require a minimum exhaust volume of 300 cubic feet per minute. All exhaust systems shall be provided with suitable duct collectors.

(c) Where spray painting is employed on a regular basis the system shall conform to the requirements of 1910.24.

(d) Open surface tanks. All operations involving the immersion of materials in liquids for the purpose of cleaning or altering the surface or adding to or imparting a finish etc., and their subsequent removal from the liquid draining and drying. These operations include washing Alkaline Cleaning, degreasing and other similar operations. Table G-12 is used to determine.

(e) Hazard Potential and each type of tank must be considered separately in regard to its contents.

SECTION 1910.95 - Occupational Noise Exposure

At this time noise exposure information has not been developed to the point that definate information can be furnished. As this information is developed additional sheets for this manual will be supplie. Mean while refer all questions on noise exposure to

your respective division management for handling by the appropriate Safety Section.

SECTION 1910.96 - Ionizing Radiation

X-Ray in the Anayl-Ray equipment are considered as ionizing radiation under the terms of the Act, however, the limits of exposure is such that additional information must be developed before guidelines can be furnished.

SECTION 1910.97 - Non-ionizing Radiation

Electromagnetic Radiation is restricted to that portion of the spectrum commonly defined as the radio frequency region which shall include micro wave frequency region.

This section is listed as a reminder to those units who might now or later acquire micro wave oven type equipment and the necessity for reading and complying with the section governing this equipment.

SECTION 1910.98 - Additional Delay in Effective Date

SECTION 1910.99 - Sources of Standards

SECTION 1910.100 - Standard Organizations

SUBPART G - HAZARDOUS MATERIALS

SECTION 1910.101 - Compressed Gases - General Requirements

It is the responsibility of the employer to ascertain that compressed gas cylinders on his premisses are in a safe condition insofar as can be determined by a visual inspection as prescribed in "Hazardous Materials Regulations" of the department of transportation (49 CFR parts 171-179 and 14 CFR part 103) or where these are not applicable, Compressed Gas Association, phom C-6-1968 and C-8-1962 are to be used.

In plant storage, handling and use of compressed gases shall conform to Compressed Gas Association pamphlet P-1-1965.

Safety relief devices for compressed gas cylinder, tanks and cargo tanks shall be in accordance with Compressed Gas Association pamphlets S-1.1-1963 and 1965 addendum S-1.2-1963.

SECTION 1910.102 - Acetylene

Any in-plant handling, storage and utilization of Acetylene in cylinders shall be in accordance with Compressed Gas Association G-1-1966.

SECTION 1910.103 - Hydrogen

Not applicable.

Section 1910.104 - Oxygen

The handling of oxygen in plants shall conform with Compressed Gas Association pamphlet G-4-1962

SECTION 1910.105 - Nitrous Oxide

Not applicable.

SECTION 1910.106 - Flammable and Combustible Liquids

Combustible liquids are those having a flashpoint above 140°F. Flammable liquids are those with a flashpoint below 140°F. and having a vapor pressure not exceeding 40 pounds per square inch (absolute at 100°F.)

In most instances the provision of paragraph (e), (2) "Incidental storage or use of flammable and combustible liquids" applies to Armour Food units. The storage and handling systems as outlined in this section apply. In the case of stored motor vehicle fuel, or liquid fuels for generating steam or power the provisions of this Act as outlined in parts (b), (c) and (d) must be met as well as local codes.

SECTION 1910.107 - Spray Finishing Using Flammable and Combustable Materials

Not applicable

SECTION 1910.108 - Dip Tanks Containing Flammable or Combustable Liquids

Not applicable

SECTION 1910.109 - Explosives and Blasting Agents

Cartridges for propellant actuated stunning tools, propellant actuated stud drivers and cartridges for rifles are within the scope of this section.

Plants keeping cartridges on hand should restrict the quantity of actual repellant (propellant less brass case) to not more than 100 pounds.

Cartridges are to be stored in a Class II magazine meeting the requirements of this section. If over 50 pounds of explosives is stored two Class II magazines are to be utilized Class II magazines are to be properly marked, locked and cleaned.

No smoking will be permitted in areas where explosives are being used.

SECTION 1910.110 - Storage and Handling of Liquified Petroleum Gases

Supervisory personnel connected with the use of L.P. fueled vehicles are to familiarize themselves with the use of this section.

Supervisors are responsible for the storage, use, condition of connections and responsible conduct of employees in handling L.P. fuel in their area.

SECTION 1910.111 - Storage and Handling of Anhydrous Ammonia

Attention is invited to (a) General subparagraph (ii), (G) which states that this standard does not apply to plants where ammonia is used solely as a refrigerant.

All plants are to ascertain that instruction for the safe handling of refrigeration gases are being followed, as specific Federal instructions for the handling of refrigerants under this Act are anticipated. A complete set of instructions covering refrigerants will be issued by the company.

Plants are instructed to review their handling of refrigerants to ascertain that they are being properly conducted, that equipment is in good order, that lines are properly marked and that all safety equipment connected with refrigerants are in proper working order and available in their prescribed area.

SECTION 1910.112 - Reserved

SECTION 1910.113 - Reserved

SECTION 1910.114 - Additional Delay in Effective Date

SECTION 1910.115 - Sources of Standards

SECTION 1910.116 - Standards Organizations

SUBPART H - PERSONAL PROTECTIVE EQUIPMENT

SECTION 1910.132 - General Requirements

This subpart covers all protective equipment for all parts of the body as well as respiratory devices and provides that the equipment be maintained and sanitary. It further states that the employer is responsible to see that reliable and sanitary protective equipment is used, even if the employee owns the equipment. All personal safety equipment must be designed to safely protect the worker in the type of work he is doing.

SECTION 1910.133 - Eye and Face Protection

Where flying objects, glare, liquids, injurious radiation or anything similar is present, protective eye and face equipment is required. This protective equipment, in addition to giving protection from the hazard, must be reasonably comfortable, durable, capable of being disinfected, easily cleanable, and fit snugly but not impede movement. Either safety glasses or goggles that have correction lenses behind the protective lenses should be used when an employee needs eye protection and requires corrective lenses.. The manufacturer of the equipment must be identified and if there are safety limitations to the equipment they must be transmitted to the user and the employer must take precautions to see that the limitations are observed. Any protective equipment for the face or eyes must be in accordance with the American National Standard for Occupational and Educational Eye and Face Protection.

SECTION 1910.134 - Respiratory Protection

The primary method of controlling occupational disease caused by breathing harmful air should be by ventilation and filtration of the air. Where we cannot properly ventilate and filter to provide uncontaminated air, we must provide respirators, maintain the respirator and instruct and train the employee in the use of the protective device. Whenever possible, a respirator should be assigned to an individual and should be cleaned and sanitized after each day's use, or more often if necessary. Respirators will be routinely inspected during cleaning and worn or deteriorated parts replaced. Emergency respirators such as ammonia masks shall be inspected at least once a month and after each use. A record shall be kept of the inspection dates and findings. We must constantly check the work area conditions and amount of exposure on the employees using the respiratory devices. Employees must not be assigned jobs needing respirators unless he has been approved by the doctor for this work. He must be re-examined once a year to determine his medical status. Respirators should be approved by the U.S. Department of Interior, Bureau of Mines, or USDA, and selection of the respirator should be governed by the guidance of the American National Standard Practices for Respiratory Protection. If you have respirators that use a contained or forced air supply, the supply must be pure and meet the requirements of the U.S. Pharmacopoeia for medical and breathing oxygen, Grade D breathing air. Oxygen cannot be used in compressed air breather respiratory. Breathing air cylinders will be tested and maintained according to the Shipping Container Specification Regulation of the D.O.T., and must be marked "Breathing Apparatus,

Self-Contained." The respirator that is permanently assigned should be marked with the individual name, and the date it was issued must be recorded. We must exercise care to select the correct respirator for the job. Standard procedures must be developed and written covering the use of respirators in dangerous conditions. Employess must be familiar with these procedures and the available equipment. When a respirator must be used in a dangerous atmosphere, such as a broken ammonia line, the "buddy" system will be used. At least on additional person will be present and communication must be maintained between them. Proper rescue equipment must be available for standby personnel to use. All respirators must fit snugly. There are some conditions that preclude a face respirator from making a good seal, such as beards, sideburns, glasses, and the absence of one or both dentures. Contact lenses must not be worn with a respirator in contaminated atmospheres. Respirators must be stored in compartments built for the purpose and must be clearly marked, such as "Amonia Mask". All cannisters must be marked and color coded for atmosphere protected against. Routinely used respirators, such as dust respirators may be stored in plastic bags, but should not be kept in lockers or tool boxes unless they are in carrying cases or cartons. If repairs are needed on the respirators, it must be made by experienced persons only. Filter type cannot be used where the oxygen is less than 16% by volume since these masks only neutralize or remove and do not supply oxygen.

SECTION 1910.135 - Occupational Head Protection

Helmets to protect employees from impact or protection from falling or flying objects and from minor shock or burns will meet the requirements and specifications of the American National Standard Safety Requirements for Industrial Head Protection.

SECTION 1910.136 - Occupational Foot Protection

Safety-toes features for employees shall meet the requirements and specifications in American National Standard for Men's Safety - Toe Footwear.

SECTION 1910.137 - Electrical Protective Devices

Rubber protective equipment for electrical workers shall conform to the requirements in the American National institute Standards.

SECTION 1910.138 - Additional Delay in Effective Date

Subpart I becomes effective February 15, 1972 except any part of the subject that is already in effect as a result of the Walsh-healy Contracts Act.

SECTION 1910.139 - Sources of Standards

SECTION 1910.140 - Standards Organizations

SUBPART I - GENERAL ENVIRONMENTAL CONTROLS

SECTION 1910.141 - Sanitation

(a) Housekeeping

All places of employment, passageways, storerooms, and service rooms shall bekept clean and orderly and in a sanitary condition and free from protruding nails, splinters, holes or loose boards. Expectorating (splitting) is prohibited in these areas. Cuspidors are not permitted in these areas. The floor of every workroom shall be maintained in a clean and so far as possible, a dry condition. For wet process, drainage shall be maintained and dry standing placed provided where practicable.

Minimize dust contamination while cleaning and sweeping - if practical do outside of working hours.

Receptacles for putrescible solid or liquid waste or refuse shall not leak and will have a tight-fitting cover.

Rodent, insect and vermin will be revented from entering or harboring in any enclosed work place or personal service room.

(b) Water Supply

Potable water for drinking, ablutionary (washing), and culinary (cooling) will be provided within 200 feet of and regular work location. Fountains or single service cups are required. Open containers and common drinking

are prohibited.

Non-potable water may be used for industrial or fire-fighting purposes only and must be clearly posted as unsafe for drinking, washing or cooking purposes.

Potable and non-potable must not be cross-connected.

(c) Toilet Facilities

Sewage disposal must meet all existing codes. Separate facilities for each sex is required, as far as practical. They should be located within 200 feet of regular work areas, as far as practical. It should not require more than one floor-to-floor flight of stairs to reach a toilet facility. There is no limit on elevator travel between floors to reach a toilet facility.

The minimum number of facilities for the following specified number of persons (maximum permitted to use facilities) are:
NOTE: CONSIDER EACH SEX SEPARATELY.

Number of Persons	Minimum Number of Facilities
1 to 9	1
10 to 24	2
25 to 49	3
50 to 74	4
75 to 100	5
100 and over	5 plus 1 for each additional 30 persons

When 3 or more facilities are required up to 1/3 of the requirement may be urinals.

Toilet paper and holder are required for individual facility hinged openfront seat of nonabsorbent finish is required.

Toilet rooms will have:

(1) Adequate washing facilities.

(2) Each toilet facility (closet) shall occupy a separate compartment and shall have a door. latch, clother hanger.

(3) Effective self-closing door.

(4) After July 1, 1971, construction of floors and walls will be watertight and cover bases shall be provided to facilities cleaning.

(5) Interior of toilet room must not be visible from the adjacent rooms.

(d) Washing Facilities

Shall be convenient and sanitary, with adequate hot and cold water. One lavatory for each 10 persons; up to 100 persons. One lavatory for each 15 persons; over 100 persons. (24 inches of sink with faucet) equals 1 lavatory.

Individual had towels, or sections thereof, of cloth or paper will be provided for employees use and are to be disposed into sanitary receptable.

Suitable cleaning agent will be provided at each wash place. Towels for general or common use is prohibited.

(e) Change Rooms

Separate change or dressing rooms equipped with individual clothes facilities shall be provided for each sex.

Work clothing shall be dry before reuse.

(f) Retiring Rooms for Women

Provide one retiring room containing at least one couch or bed (for more than 10 women) for rest and emergency when 10 or more women are employed. For less than 10 women provide an equivalent space that can be screened for privacy. The required number of such beds or couches is as follows:

10 - 100 women	1 bed
101 - 250 women	2 beds
250 or more women	2 beds plus 1 bed for each 250 additional women.

(g) Lunchrooms

If employees are permitted to lunch on premises then adequate space must be provided and waste disposal containers provided must be used by employees. No food shall be stored or eaten in any toilet room. If lunchroom is provided, the following number of square feet per person is required.

Maximum Number of Persons	Sq. Ft. Per Person
25 and less	13
26 - 74	12
75 - 149	11
150 and over	10

(h) Food Handling

All employee food service facilities and operations shall meet the requirements of "Food Service Sanitation Ordinance Code", Part V, "Food Service Sanitation Manual" U.S. Public Health Service Publication No. 934 (1965). In all places of employement where all or part of the food service is provided by vending machines, the food dispensed shall be prepared and the machine operated in accordance with the requirements of "V of Foods and Beverages, A Sanitation Ordinance and Code" U.S. PHS Publication No. 546 (1965).

SECTION 1910.142 - Temporary Labor Camps

Not applicable.

SECTION 1910.143 - Nonwater Carriage Disposal Systems

This applies to portable toilets only.

SECTION 1910.144 - Safety Color Code for Marking Physical Hazards*

Color shall meet the tests specified in Section 3 Color Definitions of ANSI - Z53.1-1967.

Basic Color	Designates	Applications (Examples)
Red	Danger	Fire Protection; equipment and apparatus; containers of flammable liquids; barricades emergency stop bars or stop button.

* See supplement 1910.144

Basic Color	Designates	Applications (Examples)
Orange	Dangerous Parts	Parts of machines of energized equipment - which may cut, crush. shock, etc.
Yellow	Caution	Striking against, stumbling, falling, and tripping hazards.
Green	Safety	First aid equipment, potable water.
Blue	Warning	Being worked upon.
Purple	Radiation	X-Ray
Black, white or combinations	Housekeeping traffic	Traffic flow

SECTION 1910.145 - Specifications for Accident Prevention Signs and Tags

These specifications apply to the design, application, and use of signs or symbols intended to indicate and insofar as possible, to define specific hazards. "Signs" refers to a surface on which letters or other markings appear.

All new signs and replacements of old signs after July 1, 1971, shall be in accordance with these specifications. All employees will be instructed as to the meaning for each type of sign and actions he must take.

Danger signs indicate immediate danger and that special precautions are necessary.

Caution signs indicate possible hazard and that proper precautions are necessary.

Safety instruction signs indicate general instructions and suggestions relative to safety measures.

The colors, proportions, and locations of the identification panels on each sign shall be in accordance with Section 1910.145 paragraph (d).

The working of any sign should be easily read and concise. A guide choosing correctly is found in Section 1910.145 paragraph (e).

Accident prevention tags are a temporary means of warning all concerned of a hazardous condition, effective equipment, radiation hazards, etc. They shall be designed and used in accordance with Section 1910.145 paragraph (f).

SECTION 1910.146 - Reserved

SECTION 1910.147 - Sources of Standards

SECTION 1910.148 - Standards Organizations

SUBPART J - MEDICAL AND FIRST AID

SECTION 1910.151 - Medical Services and First Aid

Each unit will arrange for a physician to approve the plant medical supplies and who will be readily available for consultation and advice on all matters regarding plant health.

If the unit is not near a hospital, infirmary or clinic, one of the employees must be adequately trained in the administration of first aid.

Around corrosive materials, the supplies and facilities for quick drenching and flushing of the eyes and body must be available in the work area.

SECTION 1910.152 - Reserved

SECTION 1910.153 - Source of Standards

SUBPART K - FIRE PROTECTION

SECTION 1910.156 - Definitions Applicable to this Subpart

SECTION 1910.157 - Portable Fire Extinguishers

Extinguishers shall be conspicuously located, readily accessible and immediately available along normal paths of travel. The location and type of each fire extinguisher will be clearly and conspicuously marked to insure choice of the proper extinguisher in the event of fire.

Mounting will be in accordance with Section 1910.157 paragraph (a).

The selection of fire extinguishers for a given situation is discussed in Section 1910.157 paragraph (b).

The number of fire extinguishers needed to protect a property shall be determined as prescribed in Section 1910.157 paragraph (c).

Inspection, maintenance and hydrostatic tests will be conducted as detailed in Section 1910.157 paragraph (d).

SECTION 1910.158 - Standpipe and Hose Systems

Where standpipe and hose systems are provided they shall meet the design requirements of the National Fire Protection Association's Standard for the installation of standpipe and hose systems NFPA 14 - 1970 and the requirements of Section 1910.158.

Dry standpipes including each hose connection shall be provided with a conspicuous, durable and permanently legible sign reading "Dry Standpipe for Fire Department Use Only".

SECTION 1910.159 - Automatic Sprinkler System

When automatic sprinkler systems are provided they shall meet design requirements of the National Fire Protection Association's standard for the installation of sprinkler systems NFPA No. 13-1969 and the requirements of Section 1910.159.

SECTION 1910.160 - Fixed Dry Chemical Extinguishing Systems

When dry chemical extinguishing systems are provided they shall meet the design requirements of the National Fire Protection Association's "Standard for Dry Chemical Extinguishing Systems" NFPA No. 19-1969 and the requirements of Section 1910.160.

SECTION 1910.161 - Carbon Dioxide Extinguishing Systems

When carbon dioxide extinguishing systems are provided they shall meet the design requirements of the National Fire Protection Association's "Standard on Carbon Dioxide Extinguishing Systems" NFPA No. 12-1968 and the requirements of Section 1910.161.

SECTION 1910.162 - Other Special Fixed Extinguishing Systems - (Reserved)

SECTION 1910.163 - Local Fire Alarm Signaling Systems

Where local fire alarm signaling systems are provided they shall meet the design requirements of the National Fire Protection Association's "Standard for the Installation, Maintenance, and Use of Local Protective Signaling Systems for Watchman, Fire Alarm and Supervisory Service". NFPA No. 72A-1967 and the requirements of Section 1910.163.

SECTION 1910.164 - Fire Brigades - (Reserved)

SECTION 1910.165 - Additional Delay in Effective Date

SECTION 1910.165a - Sources of Standards

SECTION 1910.165b - Standards Organizations

SUBPART L - COMPRESSED GAS AND COMPRESSED AIR EQUIPMENT

SECTION 1910.166 - Inspection of Compressed Gas Cylinder

It is the employers responsibility to make certain that compressed gas cylinders under his control are safe to the extent that there is no dents, cuts, gouges, corrosion or pitting, Inspection should be done by experienced personnel, and if there is any question the doubtful cylinders should be returned to the manufacturer.

SECTION 1910.167 - Safety Relief Devices for Compressed Gas Cylinders

This section generally applies to the manufacturer of compressed gas cylinders and equipment.

SECTION 1910. 168 - Safety Relief Device for Cargo and Portable Tanks Storing Compressed Gases

This section generally applies to the manufacturer of compressed gas cylinders and equipment.

SECTION 1910.169 - Air Receivers

This section covers compressed air receivers and other equipment used for performing operation such as cleaning, drilling, hoisting and chipping. All new air receivers must be in accordance with the 1968 edition of the ASME Boiler and Pressure Vessel code Section VIII. Safety valves must also conform to this code. When it is installed, all the drains, handholes and manholes must be easily accessible and must have enough clearance to permit a complete external inspection. At no time can an air receiver be

buried under ground or in an inaccessible place. The air receiver should be close to the compressor. Drains must be installed at the lowest point and automatic traps may be installed in addition to the drain. The receiver must be drained frequently to prevent accumulation of liquid. A pressure gauge must be on each air receiver so that is can be readily seen, and there must be at least one spring-loaded safety valve. This valve must be set to relieve when pressure exceeds 10% more than the working pressure of the receiver. There can be no valves between the receiver and the safety valve and the safety valves must be tested at regular intervals to make certain they are in good operating condition.

SECTION 1910.170 - Source of Standards

SECTION 1910.171 - Standard Organizations

SUBPART M - MATERIALS HANDLING AND STORAGE

SECTION 1910.176 - Handling Material General

In plants and branches where mechanical equipment is used to unload cars and trucks, it cannot be over stressed to the importance in selecting and training a competent operator of any type mechanical powered equipment. The operator when properly trained, makes certain proper and safe clearance in operating equipment together with ample aisle space is available to move equipment and product from arriving point to storage area. The marking of aisles used permanently for such passageways for such equipment is in order wherever possible.

Storage: All product and supplies when stacked on pallets for storage must be so placed to provide a safe and secure situation so at any time will a hazard or unsafe working area exist.

Housekeeping: All storage areas, which will include coolers, freezers and dry storage represent an area which must meet every standard of good housekeeping at any time. No accumulation of junk or material scraps be allowed to exist.

Rolling Railroad Cars: All railroad cars or motor trucks when being loaded or unloaded, must be made safe in respect to the equipment must be protected so that movement will not be made by bumping or unauthorized movement while being occupied by our employees.

Truck wheels must be blocked after placed for loading or unloading so that movement can be guarded against. If truck apron slopes toward

loading dock then external wheel to ground blocking is not required as the building serves to block movement.

Railroad cars must be guarded by either a derail device being placed at a safe distance from area where unloading or loading is being done.

Clearance Limits and Proper Guards: Signs or flags must be used to indicate danger zones such as ammonia lines, electrical lines, electrical conduits, steam lines or water lines in all areas of travel of mechanical equipment. Proper guards in and around areas of open pits, tanks or ditches to protect all personnel.

SECTION 1910.177 - Indoor General Storage

Same pattern of caution can apply as outlined under Section 1910.176 with the inclusion of the following:

1. Maximum storage height of certain commodities.
2. Proper clearance of fire protective facilities.
3. Proper storage area for combustible and non-combustible materials, proper ventilation must be determined as a precautionary measure where necessary.

Building Service Equipment: All equipment used for heating, lighting, power and any other services shall be of approved types installed and maintained and operated in accordance with all protective features built to comply with every required levels of operation.

Steam lines must be properly protected by good insulation to protect product stored within the area at no time should any type material be stored up against the steam lines.

Electrical equipment when installed shall meet every provision of the National Electrical Code NFPA - No. 70-1968.

Refrigeration systems where used, shall conform to the recommendations of any changes in capacities, etc. must be changes on name plates with legible markings.

Safety Guard: High lift rider trucks shall be fitted with an overhead guard (or better known as a headache bar) which is manufactured in accordance with standards set forth in paragraph (A) (2) of this Section unless area of operation will not permit such.

However, if the type of load presents a hazard, the user shall equip the fork truck with a vertical lad backrest extension which also must comply with paragraph outlined in this Section (A) (2).

Fuel Handling and Storage: Storage and handling of any type of liquid fuels such as gasoline, kerosine and diesel fuel shall be in accordance to all flammable combustible liquid codes.

City and County Fire Marshalls must be consulted before installation of services so that all local ordinances are complied with in respect of fire hazards and other dangers.

Changing and Charging Storage Batteries: Area where large voltage batteries are serviced, charged or stored must be an isolated area away from any dangers of monoxide fumes, acids or other types of gas in these restrictions. A good ventilated room is most essential.

Strict caution must be exercised in the charging of batteries whereby to add acid, the liquid must be poured into water. At no time is water poured into acid. All vent caps must be secure when on charging line to prevent or avoid electrolyte spray. Check vents in caps to be sure all openings are clear.

Safety Code for Mechanical Refrigeration and Air Conditioning Engineers, Inc.

All materials, regardless of type, quantity or other combination of conditions, must be stored in an area to provide the utmost measure of protection, in consideration of combustible nature of material, etc.

Consideration must be given to floor load limits, fire hazards, fire wall protection and protective measures.

All storage areas must be restricted to no smoking with such signs prominently placed and displayed openly.

SECTION 1910.178 - Powered Industrial Trucks

This section outlines the requirements which apply to fire protection for all types of mechanical powered equipment such as electrical, or internal combustion engines. Exclusion is given to equipment operated by compressed air or non-flammable compressed gas operated trucks. All new powered industrial trucks acquired after the effective date of this subpart shall meet design specifications established in accordance with standards which will parrallel the standards of the American National Standard for powered industrial trucks. Therefore, each approved truck will be identified by means of a label issued by the testing laboratory.

Any modifications and additions to the truck which may affect the capacity and safe operations of such shall not be performed by our units without first consulting the manufacturer or our Engineering Division.

Operator Training and Responsibilities: Only trained and authorized personnel shall be permitted to operate any type of mechanical powered industrial trucks.

No one shall be permitted to stand or ride on any type equipment that does not contain a provision for riding, operator only and designed for their safety while operating.

Arms or legs are prohibited from being placed between the uprights of the mast or outside the running lines of the truck.

Unattended fork trucks or any type mechanical powered equipment when left by operator must be locked, loads lowered to a safe position controls neutralized and all power shut off.

Operation and Maintenance of Trucks: At any time a power operated industrial truck is found to be in good working condition or not safe, it is to be removed from service at once, repairs to be made by an authorized personnel.

In any event, all repairs to trucks must be performed in a designated area in respect of fire hazards due to leak or spilling of fuel. Any electrical powered equipment must be disconnected from battery prior to any repairs. Battery charging area must be secluded in respect of dangers that exist from fumes, acid and other dangers which would be contrary to safety regulations.

SECTION 1910.179 - Overhead and Gantry Cranes

Not applicable.

SECTION 1910.180 - Crawler, Locomotive and Truck Cranes

Not applicable.

SECTION 1910.181 - Derricks

This section refers to A-frame, gin pole, and other fixed derricks. Any time these are used refer to this section.

SECTION 1910.182 - Additional Delay in Effective Date

SECTION 1910.183 - Sources of Standards

SECTION 1910.184 - Standard Organizations

SUBPART N - MACHINERY AND MACHINE GUARDING

SECTION 1910.211 - Definitions

SECTION 1910.212 - General Requirements for All Machines

SECTION 1910.213 - Woodworking Machinery Requirements

Machine construction general: The frames of all exposed, non-current-carrying metal parts of portable electric woodworking machinery operated at more than 90 volts to ground shall be grounded and other portable motors driving electric tools which are held in the hand while being operated shall be grounded if they operate at more than 90 volts to ground. The ground shall be provided through use of a separate ground wire and polerized plug and receptacle.

Machine controls and equipment: A control shall be provided on each machine to make it possible for the operator to cut off the power from each machine without leaving his position at the point of operation.

Hand-fed ripsaws: Each circular hand-fed ripsaw shall be guarded by a hood. The hood should be made of material that does not shatter when broken and no more flammable than wood. Saws shall be furnished with a spreader and non-kickback fingers or dogs so located as to oppose the thrust or tendency of the saw to pick up materials or throw it back toward the operator.

Hand-fed crosscut table saws: Hood and spreader requirements same as hand-fed ripsaws.

Circular resaws: Shall be guarded by a hood or shield of metal above the saw.

Self-feed circular saws: Shall be protected by a hood or guard to prevent the hands of the operator from coming in contact with the in-running rolls at any point. Each saw shall be provided with sectional non-kickback fingers for the full width of the feed rolls.

Swing cutoff saws: Shall be protected with a hood that will completely enclose the upper half of the saw, the arbor end, and the point of operation at all positions of the saw. The hood shall be so designed that it will automatically cover the lower portion of the blade. The saw shall be provided with an effective device to return the saw automatically to the back of the table when released at any point of its travel.

Radial saws: The upper hood shall completely enclose the upper portion of the blade down to a point that will include the end of the raw arbor. The sides of the lower exposed position of the blade shall be guarded to the full diameter of the blade by a device that will automatically adjust itself to the thickness of the stock and remain in contact with the stock being cut. Attention is directed to (5) covering permanent label reading and danger coloring.

Bandsaws and band resaws: All portions of the saw blade shall be enclosed or guarded, except for the working portion of the blade between the bottom of the guide rolls and the table. Bandsaw wheels shall be fully encased. Each bandsaw machine shall be provided with a tension control devise. Feed rolls of band resaws shall be protected with a suitable guard to prevent the hands of the operator from coming in contact with the in-running rolls at any point.

Jointers: Shall be equipped with a cylindrical cutting head, two knife projection of which shall not exceed one-eighth inch beyond the cylindrical body of the head. The clearance between the edge of the rear table and the cutter head shall be not more than one-eighth inch.

Tenoning machines: Each tenoning machine shall have all cutting heads and saws if used, covered by metal guards.

Boring and Mortising machines: Safety-bit chucks with no projecting set screws shall be used. Boring bits shall be provided with a guard. The tip of the cutting chain and driving mechanism shall be enclosed. Universal joints or spindles of boring machines shall be completely enclosed in such a way as to prevent accidental contact by the operator.

Wood shapers and similar equipment: Machines not automatically fed shall be enclosed with a cage or adjustable guard. Cylindrical hoods shall be used whenever the nature of the work will permit. All double-spindle shapers shall be provided with a spindle starting and stopping device for each spindle.

Claning, molding, sticking and matching machines: Reference only to units having any of this equipment. Very limited use in company units.

Profile, swing-head lathes and wood heel turning machines: Each profile and swin-head lath shall have all cutting heads covered by a metal guard. Cutting heads on wood-turning lathes, whether rotating or not, shall be covered as completely as possible by hoods or shields. Shoe last and yoke lathes, dowling machines, wood heel turning machines, and other automatic wood-turning lathes of the rotating knife type shall be equipped withhoqds.

Sanding machines: Feed rolls of self-feed sanding machines shall be protected with a semi-cylindrical guard. Each drum sanding machine shall have an exhaust hood, or other guard if no exhaust system is required. Also, disc sanding machines. Belt sanding machines shall be provided with guards at each nip point where the sanding belt was onto a pulley.

Veneer cutters and wringers: Not applicable.

Miscellaneous woodworking machines: The mention of specific machines in paragraphs (a) thru (q) and paragraph (r) of this section, inclusive, is not intended to exclude other woodworking machines from the requirement that suitable guards and exhaust hoods be provided to reduce a minimum the hazard due to the point of operation of such machines.

Inspection and Maintenance of Woodworking machinery: Dull, badly set, improperly filed or improperly tensioned saws shall be immediately removed from service-sharpening and tensioning of saw blades or cutters shall be done only by persons of demonstrated skill in this kind of work.

SECTION 1910.214 - Cooperage Machinery

Not applicable.

SECTION 1910.215 - Abrasive Wheel Machinery

Abrasive wheels shall be used only on machines provided with safety guards as defined in this section except as noted.

SECTION 1910.216 - Mills and Calenders in the Rubber and Plastic Industries

Not applicable.

SECTION 1910.217 - Mechanical Power Presser

General requirements

Exclude machines: Press brakes, hydraulic and pneumatic power presses, bulldozers, hot bending and hot metal presses, forging presses and hammers, riveting machines and similar types of fastener applicators are excluded from the requirements of this section.

SECTION 1910.218 - Forging Machines

Not applicable.

SECTION 1910.219 - Mechanical Power-Transmission Apparatus

(a) General Requirements (1) This section covers all types and shapes of power-transmission belts except those noted in this section.

Attention is directed to guarding section as follows:

(g) Guarding friction driver.

(k) Guarding of clutches, cutoff couplings and clutch pulleys.

(m) Standard guards-general requirements.

(n) Disk, shield, and "U" guards.

(o) Approved materials

(1) Minimum requirements

(2) Wood guards

(3) Guards for horizontal overhead belts

(4) Guards for horizontal overhead rope and chain drives

(5) Guardrails and toeboards

SECTION 1910.220 - Additional Delay in Effective Date

The requirements in this Subpart O shall be effective on February 15, 1972.

SECTION 1910.221 - Sources of Standards

SECTION 1910.222 - Standards Organizations

SUBPART O - HAND AND PORTABLE POWERED TOOLS AND OTHER HAND-HELD EQUIPMENT

SECTION 1910.241 - Definitions

SECTION 1910.242 - Hand and Portable Powered Tools and Equipment, General

Please note carefully: (1) The employer is responsible for the safe condition of tools and equipment and includes tools furnished by the employee, (2) Compressed air used for cleaning is to be less than 30 p.s.i.

SECTION 1910.243 - Guarding of Portable Power Tools

General specifications as to the use of safety devices are outlined for portable tools. Particular attention is to be given to regulations governing the operation of tool guards and circular saw blade conditions, grinders and their appurtenances, explosive actuated for fastening and power lawn mowers where applicable.

SECTION 1910.244 - Other Portable Tools and Equipment

Specific rules are cited governing the use of "jacks".

SECTION 1910.245 - Additional Delay in Effective Date

The provisions of Subpart P are effective February 15, 1972.

SECTION 1910.246 - Sources of Standards

SECTION 1910.247 - Standards Organizations

SUBPART P - WELDING, CUTTING, AND BRAZING

SECTION 1910.251 - Definitions

SECTION 1910.252 - Welding, Cutting, and Brazing

Gas Welding

Only approved apparatus such as torches, hoses, hose clamps, regulators, etc. shall be used. Cylinders must meet DOT Regulations and must be properly and legibly marked. Personnel using welding or cutting equipment must be suitably trained in the safe operation of such equipment.

Values on all cylinders must be kept closed whenever they are not in use, including the time the cylinder is being moved. Protective value caps and/or collars must be in palce, hand tight, and at all times except when cylinders are connected for use.

Fuel-gas cylinders may be stored inside of a plant or branch house providing such storage is limited to a maximum of 2,000 cubic feet of gas or 300 pounds of LP gas. Amounts in excess of these limits must be stored outside or in a separate building. In all cases, stored cylinders must be kept in dry, protected, well-ventilated areas, away from heat and at least 20 feet from highly combustible materials such as oil, grease, excelsior, corrugated board, etc.

Oxygen cylinders must be stored at least 20 feet from fuel-gas cylinders. Keep cylinders in definitely assigned places away from elevators, stairs, gangways, or other places where they

might be knocked over. Whenever possible, cylinders should be kept in special racks and fastened in place. Cylinders must be stored with valve end up. Rooms in which they are stored should contain conspicuously - posted signs reading "Danger - No Smoking, Matches or Open Lights," or other equivalent wording.

Before attaching a regulator to a cylinder, open the valve slightly and then close it immediately. Use care to stand to one side of the outlet while this is done. Never "crack" a cylinder in this manner near any source of sparks or flame. Always open valves slowly. Do not open tank valves more than one complete turn. Never remove the valve stem completely from diaphragm-type sylinder valves.

When in use, cylinders must have regulators attached and must be secured in a special truck. Pressure in hoses must not exceed 15 P.s.i. absolute pressure. Keys, handles, or non-adjustable wrenches must be on valve stems. Position cylinders in use so that sparks or flame will not touch them. If this is not possible, use a heat-resistant shield between cylinder and work. Use care to prevent cylinders from becoming part of an electrical circuit, particularly in area where arc welding is being done. Always close the cylinder valve and release the gas from the regulator before removing the regulator.

Cylinders and all apparatus, including hoses, must be kept free of oil and greasy substances. Do not handle oxygen cylinders with oily or greasy hands or gloves. Never permit a jet of oxygen to strike oily or greasy surfaces. Never

handle cylinders roughly. Never place anything on top of cylinder which might interfere with the safety device or with quick closing of the valves. Do not allow them to drop or to strike each other.

Never use cylinders for anything but their intended purpose; never tamper with cylinder valves or safety devices; never refill a cylinder nor attempt to mix gases in cylinders.

Defective Cylinders

In case of any defects in a cylinder, such as valves which cannot be opened easily by hand, leaking valves or fittings, leaking fuse plugs, etc., attach a tag indicating the type of defect, and notify the supplier promptly. Follc his instruction for disposition. Never attempt to correct such defects yourself. In cases where leaks cannot be stopped by simply closing the cylinder valve, move the cylinder outdoors, away from any source of ignition, and allow the tank to empty slowly. Warning signs must be posted conspicuously near leaking cylinders to alert people not to approach with lighted cigarettes or other sources of ignition.

Arc and Resistance Welding

All equipment and apparatus must be selected for safe application to the work to be done and must comply with the Requirements for Electrical Arc-Welding Apparatus, NEMA EW-1-1962, National Electrical Manufacturers Association or the Safety Standard for Transformer Type Arc-Welding Machines, ANSI C33.2 - 1956, Underwriters Laboratories. Periodic inspections must be made of all machines by qualified personnel and a record must

be kept of such inspections. All repairs and servicing of the equipment must be done by qualified repairmen.

Specially designed arc-welding equipment must be used when:

- Cooling air is above 104° F. (40°C.)
- The equipment is used at altitudes over 3,300 feet
- Other unusual service conditions are encountered such as exposure to flammable gasses, weather, corrosive fumes, vibration and/or excessive dust, oil vapor, or humidity

Terminals for welding leads must be protected by suitable electrical and mechanical protection form accidental contact by personnel or by metal objects.

The external weld initiating control circuits of non-portable spot and seam welding machines must be operated on voltages which do not exceed 120 volts.

All welding equipment must be installed and grounded under the conditions and according to the methods prescribed in Subpart S of this part. The rated current carrying capacity of the supply conductors must be at least equal to the rated primary current of the welding machine.

Personnel using our welding equipment must be properly instructed and qualified to operate such equipment. The individual must be thoroughly familiar with all requirements of this section (section 1910.250) of the Act. Under no circumstances should the operator coil or loop live welding electrode cable around

parts of his body. He must promptly report any equipment defects or hazards to his supervisor and the equipment involved must not be used until its safety has been assured. All doors and access panels of machines and control panels must be kept locked and interlocked to prevent unauthorized persons from coming in contact with live portions of the equipment.

The no-load voltages used should be as low as possible for the job, and on AC machines must not exceed 80 volts for manual welding and 100 volts for automatic welding. NO-load voltage on DC machines must not exceed 100 volts for either manual or automatic welding. For voltages in excess of those shown above, the machines must be specially insulated to prevent the operator from making accidental contact with the high voltage.

For AC welding under wet conditions or in warm surroundings where perspiration is a factor, reliable automatic controls for reducing no-load voltage must be used to reduce the shock hazard.

Chains, wire ropes, cranes, hoists, elevators, and/or conduits containing electrical conductors must not be used for completing a work-lead circuit. Pipelines may be used as a temporary part of a work-lead circuit during construction, extension, or repair providing current is not carried through threaded joints, flanged, bolted joints, or calked joints and that special precautions are used to avoid sparking at connection of the work cable.

Where a structure, conveyor, or fixture is regularly used as a welding current return circuit, joints must be bonded or provided with adequate current collecting devices and must be inspected periodically to make sure that no condition of electrolysis or shock or fire hazard exists.

A discount switch must be provided at each machine and each machine must have approved (See Subpart S) overcurrent protection. All DC machines must be connected with the same polarity and all AC machines must be connected to the same phase of the supply circuit.

Before staring operations, all connections, including grounding of the machine and the work, must be checked. Coiled welding cable must be spread out before use to avoid overheating. All manufacturers' instructions must be followed. There must be no leaks of cooling water, shielding gas or engine fuel. Electrode holders, when not in use, must be placed where they cannot make electrical contact with individuals or conductive surfaces.

Damaged cables and/or cables with splices within 10 feet of the holder must be replaced. All splices must be made with proper means of connection and must be properly insulated.

Any welding machine which has become wet must be throughly dried and tested before being used.

Suitable guards, shields and/or fire curtains must be used to prevent flying sparks from presenting a hazard to nearby personnel,

structure or building contents.

Fire Prevention and Protection

Management must establish areas in which cutting and welding may be done, based upon fire potential in each area. An individual or individuals must be designated to inspect areas in which welding or cutting is to take place and decide if such work can be done safely. This individual must designate the appropriate safety precautions which must be used and issue a written authorization before the welding or cutting is started. Management must also advise contractors about flammable materials or hazardous conditions of which the contractor or his employees may not be aware.

Supervisors are responsible for the safe handling of cutting nad welding equipment and must see that all safety precautions specified in this section are taken.

Whenever possible, objects to be welded or cut should be moved to an area containing no fire hazards. If this cannot be done, all moveable fire hazards must be moved at least 35 feet from the welding or cutting area. Any non-moveable fire hazard must be completely protected from spearks, slag, or heat by means of suitable guards, shield or curtains.

Special precautions must be taken when welding or cutting operations take place near floor or wall openings which expose combustible materials to falling of flying sparks. Combustible floors near the welding must be wet down with water. Ducts or conveyors which might carry sparks or fire to other areas must be shut down or suitably protected. Suitable fire extinguishing equipment

must be available and ready for instant use wherever welding or cutting is being done.

At least one individual must be stationed at the scene of any welding or cutting to act as a fire watch under the following conditions:

- When combustible materials, building or contents, are are within 35 feet of the welding point, or when such materials are further than 35 feet away, but are easily ignited by sparks.
- Where wall or floor openings within 35 feet of the welding point expose combustible materials, including concealed spaces in walls or floors.
- Where welding takes place near a partition, root or floor and combustible materials within the surface or on the other side might be ignited by radiated or conducted heat.
- Whenever potentially hazardous conditions make the use of a fire watcher advisable.

In cases where one individual cannot see potentially hazardous areas, more than one individual must be used. The fire watchers must be familiar with the proper use of fire extinguishing equipment and must know how to quickly turn in a fire alarm if it becomes necessary. The fire watch must be maintained for at least ½ hour after welding or cutting is completed.

Cutting or welding must not be done in the following area or under the following circumstances:

- Areas not authorized for welding by management.
- In sprinklered buildings while such protection is impaired.
- In the presence of explosive atmospheres (gas, vapors, liquids of dust) or where explosive atmospheres may develop inside tanks or equipment on or near welding is taking place.
- In areas close to large quantities of stored combustibles.
- On building surfaces having combustible coverings or combustible interior construction.
- On metal which is in contact with combustible materials or surfaces unless the working point is far enough away to prevent combustion by conduction or radiation of heat.
- During plant operation which might expose combustibles to ignition.
- On any drum, tank or other container unless the container has been thoroughly cleaned to make absolutely certain that there are no flammable substances present and/or that all substances which might produce toxic or flammable fumes under heat have been removed. All containers and/or hollow spaces in objects being welded, cut or brazed must be vented to allow escape of air or gases. Whenever possible, containers should be purged with an inert gas.

Under any other conditions which present a safety hazard suitable, effective precautions can be taken before welding or cutting is begun.

Whenever welding, cutting or brazing operations are suspended, such as over the lunch hour or for overnight electrodes on our welders must be removed from holders, the holders must be put in a safe place, and the machine must be disconnected from its power source. On gas welding equipment, the tank valves must be closed and the torch and hose must be removed from the area.

Protection of Personnel

Welders and helpers working on platforms, scaffolds, walkways, etc., must be protected from falling by means of suitable railings, safety belts, or equally effective safeguards. Welding cable and/or hoses must be placed so they are clear of passageways, ladders and stairways. Where necessary, this can be done by hanging the cable or hose overhead.

In confined spaces, such as in a tank, boiler, small compartment, etc., gas cylinders and welding machines must be left on the outside. Units on wheels must be securely blocked to prevent movement before welding is started. Adequate ventilation in confined spaces is essential. If the welder must enter a confined space through a manhole or other small opening, an adequate lifeline and safety belt or harness must be used. The lifeline must be attached so that the welder's body cannot be jammed in the opening. An attendent with a pre-planned rescue procedure must be stationed outside to observe the welder at all times.

Helmets or hand shields must be used during all arc welding or cutting operations. Where necessary, goggles should also be worn during arc welding or cutting to protect against rays from adjacent welding work or from flying objects.

Goggles or other suitable eye protection must be used during gas welding or brazing or during resistance welding.

In all cases, suitable eye protection must be provided for welders, attendants and any other individuals involved in the work or working in nearby areas where visible rays may be a hazard.

Helmets and hand shields must be made of electrical and heat insulating materials which are fire resistant. They must be able to withstand sterilization and must be constructed to protect the face, neck and ears from direct radiant energy from the arc. They must have cover plates and filter plates which are easily removable. All parts of the helmet must not readily corrode or discolor the skin.

Goggles must be ventilated to minimize lens fogging.

All filter lenses and plates for goggles, helmets and hard shields must meet the test for transmission of radiant energy prescribed in ANSI Z87.1-1968 - American National Standard Practice for Occupational and Educational Eye and Face Protection. Commonly used lens shade are #12 for arc welding and #6 for gas welding. These shades will be adequate for almost all of the work we do. However, the guide shown in this section (1910.252) will be useful when unusual conditions are encountered.

Lenses and cover plates must be made of tempered glass which is free from distortion. They must be permanently marked to indicate the source and the shade number.

All welders and other persons exposed to cutting, welding or brazing hazards must be protected with suitable personal protective equipment. This may include such things as:

- Flameproof aprons and wool or treated flame resistant cotton clothing which is reasonably free from grease or oil.
- Overalls or trousers with legs which are not turned up to catch sparks. Sleeves and collars should be kept buttoned and overalls or aprons should not have pockets.
- Fire resistant legging's and/or high boots.
- Capes or shoulder covers and caps of suitable material should be worn when welding or cutting overhead.
- Ear protection is sometimes desirable when working overhead or in confined spaces.
- Welders must wear flameproof gauntlet gloves.
- Hard hats must be used where there is exposure to sharp or heavy falling objects, or where the head may be a hazard.

Where the work permits, an arc welder should be enclosed on at least three sides (preferably four sides) with an individual booth and/or non-combustible portable screen. The inside of such enclosures should be painted with a low reflective finish (zinc oxide and lamp black is suggested) and they must be raised off the

floor to permit circulation of air to protect persons nearby from arc welding rays.

After welding is completed, the welder must mark the hot metal or provide some other means of warning passers-by of the hazard.

Health Protection and Ventilation

All areas in which welding takes place must be adequately ventilated and in some cases respirators or hose masks must be used. Requirements are detailed in this section (1910.252) and should be studied thoroughly. Pay particular attention to those paragraphs dealing with welding or cutting of zinc bearing materials (galvanized steel) and stainless steel. Also note the need to carefully read warning statements on packages of welding materials.

SECTION 1910.253 - Sources of Standards

SECTION 1910.254 - Standards Organizations

SUBPART Q - SPECIAL INDUSTRIES

SECTION 1910.261 - Pulp, Paper and Paperboard Mills

SECTION 1910.262 - Textiles

SECTION 1910.263 - Bakery Equipment

SECTION 1910.264 - Laundry Machinery and Operations

SECTION 1910.265 - Sawmills

SECTION 1910.266 - Pulpwood Logging

SECTION 1910.267 - Agricultural Operations

This section except from the operation thereof most agricultural operations and indicates that special standards will be developed and published at a later time with respect to such operations.

Pending the definition of "agricultural operations" by definitive regulations it is suggested that we interpret the term in a broad sense, and in this connection.

1. The following operations are clearly agricultural in nature:
   (a) Poultry growing operations - farm
   (b) Poultry hatchery
   (c) Cattle feedlot operations
   (d) Swine Broodstock Production

2. The following operations may be classified as agricultural but the issue is doubtful:

   (a) Fieldmen (Poultry production)

   (b) Truck drivers, poultry pick-up

   (c) Hog buyers, country stations

   (d) Fieldmen (hog production) pig collection and placement

3. The following constitute part of meat packing plant operations and therefore are not agricultural:

   (a) Hog buyers, stockyards and plant yards

   (b) Cattle buyers (mostly stockyards and plant yards)

   (c) Livestock handlers, plant yards

Pending clarification of the issue by definitive regulations consider categories 1 and 2 agricultural and category 3 as non-agricultural.

SECTION 1910.268 - Sources of Standards

SECTION 1910.269 - Standards Organizations

SUBPART R - ELECTRICAL

SECTION 1910.308 - Application

Certain articles of the National Electrical Code are listed in Section 1910.308 thru 1910.328. Parts, which are not so published are also adopted as national consensus standards and are incorporated by reference to this Subpart.

SECTION 1910.309 - National Electrical Code

All electrical installations and utilization equipment shall be installed and maintained in accordance with the provisions of the National Electric Code NFPA 7-1968 (ANSIC-1-1968).

Company units using electric contractors should insist that electric work by the contractor meet the requirements of the National Electric Code. Units with their own electrical departments must obtain a copy of the National Electic Code and be certain that the electrical work is equal to or better than a minimum required by the Code.

SECTION 1910.310 - General

This Section outlines voltages, mountings of equipment, connections to terminals, working space about electrical equipment, guarding of live parts and identification. Attention is called to identification which specifies that "Each disconnecting means required by this subpart for motors and appliances, and each service feeded or branch circuit at the point where it originates shall be legibly marked to indicate its purpose unless located and arranged so the purpose is evident. The marking shall be of sufficient durability to with-

stand the environment involved."

Before work is begun on any power-operated equipment, the master control switch must be opened and locked in position with an identifying lock. The fuses shall be pulled and switch tagged to identify the individual working on the equipment.

The Act (Section 1910.145 (f)) states that Accident Prevention tags are a temporary means of warning and not to be considered as a complete warning system, but should be used for a few moments or a very short time until the switch can be locked out. To comply with these requirements the switch equipment must be identified.

SECTION 1910.311 - Reserved

SECTION 1910.312 - Overcurrent Protection

Equipment shall be protected against over current with adequate interrupting capacity in suitable enclosures.

SECTION 1910.313 - Reserved

SECTION 1910.314 - Grounding

This section refers to grounding of electrical and must be referred to and followed. Part 4 Equipment, connected by cord and plug refers to portable tools used in the plant by mechanics. These tools must be grounded in accordance with this section and the National Electric Code.

SECTION 1910.315 - Outlet, Switch and Junction Boxes and Fittings

This section refers to Junction Boxes, size and numbers of conductors in boxes used in electrical work and their installation. Of particular importance is that all pull boxes, etc. shall be provided with covers approved for the purpose. This requirement should be reviewed by units to be certain that electric boxes meet the requirements.

SECTION 1910.316 - Flexible Cords and Cables

Flexible cords and cables and their associated fittings shall be suitable for the conditions of use and location. This section must be referred to for specific application.

SECTION 1910.317 - Reserved

SECTION 1910.320 - Appliances

Connection of portable immersion heaters, hot water heaters and similar appliances have grounding requirements and safe guards requirements for fire safety. This section should be studied for specific application.

SECTION 1910.321 - Reserved

SECTION 1910.322 - Hazardous Locations - General

SECTION 1910.323 - Reserved

SECTION 1910.324 - Hazardous Locations - Class I Installations

SECTION 1910.325 - Reserved

SECTION 1910.326 - Hazardous Locations - Class II Installations

SECTION 1910.327 - Reserved

SECTION 1910.328 - Hazardous Locations - Class III Installations

These sections of the Act refer to electrical equipment and mining in hazardous locations, such as atmospheres containing ecetylene, hydrogen, ethyl vapors, gasoline, hexane, butane, propane, alcohol, coal dust, grain dust in the air in quantities sufficient to produce explosive or ignitible mixtures. These are listed under group class and location numbers and must be referred to in the sections under these numbers.

EXTINGUISHERS

Class A Hazard Areas

(Class A hazards are defined as those having ordinary combustible materials such as wood, cloth, paper, rubber, and many plastics)

DISTRIBUTION—With the travel distance to a Class A extinguisher *not to exceed 75 feet*, the following tables relate to *MINIMUM* numbers and *MINIMUM* ratings:

"Hazard Areas" are classified as Light Hazard, Ordinary Hazard, or Extra Hazard as follows:

LIGHT HAZARD	ORDINARY HAZARD	EXTRA HAZARD
Where the amount of combustibles or flammable liquids is such that fires of small size may be expected. These may include offices, schoolrooms, churches, assembly halls, telephone exchanges, etc. 3,000 sq. ft.—1-A rating 6,000 sq. ft.—2-A rating 9,000 sq. ft.—3-A rating 11,250 sq. ft.—6-A rating	Where the amount of combustible flammable liquids is such that fires of moderate size may be expected. These may include mercantile storage and display, auto showrooms, parking garages, light manufacturing, warehouses not classified as Extra Hazard, school shop areas, etc. 3,000 sq. ft.—2-A rating 4,500 sq. ft.—3-A rating 6,000 sq. ft.—4-A rating 9,000 sq. ft.—6-A rating 11,250 sq. ft.—10-A rating	Where the amount of combustible or flammable liquids present is such that fires of severe magnitude may be expected. These may include woodworking, auto repair, aircraft servicing, warehouses with high-piled (over 15 feet in solid piles, over 12 feet in piles that contain horizontal channels) combustibles, and processes such as flammable liquid handling, painting, dipping, etc. 3,000 sq. ft.—3-A rating 4,000 sq. ft.—4-A rating 6,000 sq. ft.—6-A rating 9,000 sq. ft.—10-A rating 11,250 sq. ft.—20-A rating

Class B Hazard Areas

(Class B hazards are defined as those involving inflammable liquids, gases and greases)

(I) GENERAL AREA PROTECTION—The *MINIMUM* numbers and *MINIMUM* ratings shall be according to the following table:

LIGHT HAZARD AREAS	ORDINARY HAZARD AREAS	EXTRA HAZARD AREAS
5-B rating—every 30 feet or 10-B rating—every 50 feet *Note: Old 4-B rating acceptable for 50 feet	10-B rating—every 30 feet or 20-B rating—every 50 feet *Note: Old 8-B rating acceptable for 50 feet	20-B rating—every 30 feet or 40-B rating—every 50 feet *Note: Old 12-B rating acceptable for 50 feet

(II) FLAMMABLE LIQUIDS IN DEPTH—"Depth" is defined as being more than ¼ inch. Quench tanks, dip tanks and degreasers are typical examples of "flammable liquids in depth." For such protection, the following conditions shall be met:

The square foot area of the flammable liquid surface determines the minimum rating of the required class B extinguisher. Example: If the liquid surface measures 5 feet by 4 feet, it adds up to 20 square feet. The Class B rating of the extinguisher must equal or exceed the square feet—or 20-B in this example.

Use of several lower rated extinguishers is *not* acceptable—even when their collective ratings equal—or even exceed—the single required extinguisher of the correct rating. Example: For a 20 sq. ft. tank, three 10-B rated extinguishers are *not* acceptable.

Exceptions:

(1) When an approved automatic extinguishing system is provided, the extinguisher requirement may be waived;

(2) Dip Tanks containing more than 150 gallons—or having a liquid surface of 4 sq. ft. or more—*require* an automatic extinguishing system; it also requires extinguisher protection for the perimeter areas of the Dip Tank;

(3) Up to 3 foam extinguishers are acceptable—but ONLY if their combined class B ratings equals the number of square feet of the liquid surface. More than 3 foam extinguishers are NOT acceptable.

Class C Hazard Areas

(Class C hazards are defined as those involving energized electrical equipment)

DISTRIBUTION—Class C extinguishers are to be provided to meet the following conditions:

(1) Extinguishers with Class C ratings shall be required where energized electrical equipment may be encountered which would require a nonconducting extinguishing agent;

(2) Protection shall include fire either directly involving, or surrounding, the electrical equipment;

(3) Since the fire itself is a Class A or Class B hazard, the size and location of an extinguisher should be considered on the anticipated Class A or Class B hazard.

Class D Hazard Areas

(Class D hazards are defined as those involving combustible metals such as magnesium, titanium, zirconium, sodium, and potassium.)

DISTRIBUTION—Class D extinguishers are classified as Dry POWDER types.

Also available for Class D fires are special compounds that are applied directly from the supply pail using a scoop.

Class D extinguishing agents require a prescribed quantity of the extinguishing agent for a given size area of burning combustible metals. Also, the quantity of the combustible metals is a factor in determining the amount of extinguishing agent required.

EXTINGUISHER CLASSIFICATIONS AND RATINGS

CLASS A FIRES—are those in ordinary combustible materials such as wood, cloth, paper, rubber, and many plastics.

ORDINARY

COMBUSTIBLES

FOR EXTINGUISHERS RATED ON CLASS A FIRES, the rating NUMERAL preceding the letter "A" indicates the size of fire expected to be extinguished. These size fires are based upon specific fire test by Underwriters' Laboratories (U/L), involving wood and excelsior.

FOR EXTINGUISHERS CONTAINING MULTI-PURPOSE DRY CHEMICAL (ABC)—but NOT rated for Class A fires—a special SHAPE SYMBOL is used. These are small extinguishers charged with ABC dry chemical but have insufficient effectiveness to earn the minimum 1-A rating, even though they have some value in extinguishing small Class A fires. (They are rated, however, for Class B and C fires.)

CAPABILITY

CLASS B FIRES—are those involving flammable liquids, gases, and greases.

FLAMMABLE

LIQUIDS

FOR EXTINGUISHERS RATED ON CLASS B FIRES, the rating NUMERAL preceding the letter "B" is a proportionate indication of the square foot area of burning flammable liquid, of appreciable depth (over ¼ inch), that is expected to be extinguished by a TRAINED operator.

CLASS C FIRES—are those which involve energized electrical equipment where the electrical nonconductivity of the extinguishing agent is of importance.

ELECTRICAL

EQUIPMENT

FOR EXTINGUISHERS CLASSIFIED FOR USE ON CLASS C FIRES, no NUMERAL is used since Class C fires are essentially either Class A or B fires involving energized electrical wiring and equipment. The size of the different suitable extinguishers installed should be commensurate with the size and extent of the Class A and/or Class B components of the electrical hazard or containing equipment being protected.

CLASS D FIRES—are those involving combustible metals, such as magnesium, titanium, zirconium, sodium, and potassium.

COMBUSTIBLE

METALS

FOR EXTINGUISHERS CLASSIFIED FOR USE ON CLASS D FIRES, no NUMERAL is used. The relative effectiveness of these extinguishers, or approved compounds in pails, for use on specific combustible metal fires is detailed on the extinguisher nameplate.

CLASSIFICATION of an *extinguisher* consists of a LETTER which indicates the class of fire on which an extinguisher has been found to be effective, preceded by a rating NUMERAL (Class A and B only) which indicates the relative extinguishing effectiveness. These "letters" and "numerals" are shown on the extinguisher nameplate.

Many extinguishers have *multiple* fire classifications. On newer models the nameplate indicates multiple classifications by illustrating more than one Classification Shape Symbol. Multiple-rated extinguishers include the following classifications: A, B or B, C or A, A, B, C.

RATING SYSTEM USED PRIOR TO 1955

These extinguishers are identified by the LETTER *preceding* the NUMERAL, instead of the opposite for the more current extinguishers. EXAMPLE: A 10# carbon dioxide extinguisher manufactured prior to 1955 will show on its nameplate the rating of "B-2, C-1."

The big difference involves Class B extinguishers in that the *discharge rate* usually determines the rating numeral. In short, pre-1955 discharge rates were slow as opposed to rapid discharge rates for newer extinguishers. Result: The fast discharging extinguishers are able to extinguish much larger fires. THIS MEANS THAT PRE-1955 RATED CLASS B EXTINGUISHERS HAVE LIMITED ACCEPTABILITY—NO MATTER HOW LARGE—AS COMPARED WITH CURRENT UNITS.

INSPECTION, MAINTENANCE, HYDROTESTING

INSPECTION	HYDROTESTING	MAINTENANCE
It is simply a "quick check" that the extinguisher is available, and is located in its proper place.	It determines if the reserve strength of an extinguisher shell or cylinder is within specified allowances.	It is a "thorough check" of the extinguisher to give *maximum* assurance that it will operate effectively—*and safely.*
An Inspection is intended to give reasonable assurance that the extinguisher will operate.	It is an internal application of hydraulic pressure upon the extinguisher shell or cylinder that is filled with water.	It is a thorough examination that includes any necessary repair, recharging or replacement.
An Inspection is to determine that the extinguisher has not been tampered with and is not damaged.	Test methods and test records are those prescribed by the NFPA or the Compressed Gas Assn. (CGA), depending upon the type of shell or cylinder being tested.	It will indicate the need and/or time when a hydrotest is required.
An Inspection is to determine that the Maintenance record tag is up-to-date.	It is recommended to use a protective cage when testing low pressure shells or cylinders; for compressed gas cylinders special test apparatus approved by the Bureau of Explosives is required (for USA).	Maintenance begins with a thorough examination to determine the condition of the 3 basic elements of an extinguisher.
An Inspection is to be sure that the extinguisher is the correct type for its intended use.	It is necessary to use suitable drying equipment for many types of shells and cylinders to remove all traces of moisture after a Hydrotest has been performed.	(1) *Mechanical Parts*—the containers or pressure vessels, as well as other components.
An Inspection is to be performed at least monthly.		(2) *Extinguishing Agent*—the amount and condition.
		(3) *Expelling Means*—the amount and leakage of gas, or condition of pump.
		Maintenance is required to be performed ANNUALLY.

EXTINGUISHERS FOR SPECIAL FACILITIES AND PROCESSES

OPEN FAT KETTLES USED IN BAKERIES	One Class B, rating to equal or exceed, the square feet of fat surface
LPG BULK PLANTS	At least one 20-B:C (old 12-B:C acceptable)
LPG SERVICE STATIONS	At least one 10-B:C (old 8-B:C acceptable)
LPG STATIONARY ENGINES & GAS TURBINES WITHIN LPG STORAGE & HANDLING FACILITIES	Extinguishers of *"appropriate size, type and number shall be provided."*
LPG CYCLINDER STORAGE AREAS (for end users)	At least one 10-B:C (old 8-B:C acceptable)
SPRAY FINISHING	*"An adequate supply of portable fire extinguishers shall be installed near all spraying areas."*
DIP TANKS	(1) If less than 150 gal. capacity OR having a liquid surface NOT exceeding 4 sq. ft., a SINGLE Class B extinguisher with a rating equal to, or more than, the square feet of the liquid hazard. (2) If capacity or size exceed above, an automatic system is required—PLUS—*"areas in the vicinity of dip tanks shall be provided with . . . extinguishers . . ."*
FLOW COATING	*". . . All of the . . . standards for DIP TANKS apply."*
ROLL COATING	As above
OUTSIDE FLAMMABLE LIQUIDS STORAGE BUILDINGS	One 20-B (old 12-B acceptable)
INSIDE STORAGE ROOMS FOR FLAMMABLE LIQUIDS	As above.
AUTOMOTIVE SERVICE STATIONS	One 10-B:C (old 6-B:C acceptable) to be within 75 feet of each pump, dispenser, underground fill-pipe opening, and lubrication or service room.
AMMONIUM NITRATE STORAGE	"Suitable . . . hose or portable extinguisher shall be provided throughout the warehouse *and in the loading and unloading areas."*

EXTINGUISHERS FOR USE ON MOBILE EQUIPMENT

LPG INDUSTRIAL TRUCKS USED IN AREAS OF STORAGE & HANDLING OF LPG	One B:C—no rating indicated.
INDUSTRIAL TRUCKS (all types) USED IN INDOOR GENERAL STORAGE AREAS	As above
OVERHEAD CRANES (cab-operated)	Carbon dioxide or dry chemical (no rating specified).
CRAWLER LOCOMOTIVES; TRUCK CRANES	Carbon dioxide or dry chemical (no rating specified).
WELDING CARTS	*"Suitable fire extinguishing equipment shall be maintained in a state of readiness for instant use."*
MOBILE LPG COOK UNITS	One 10-B:C (old 8-B:C acceptable)
TRUCKS TRANSPORTING EXPLOSIVES	Two (2) extinguishers required, each rated not less than 10-B:C.
TRUCKS TRANSPORTING OTHER HAZARDOUS MATERIALS	One 10-B:C (carbon dioxide is NOT acceptable).
TRUCKS TRANSPORTING NON-HAZARDOUS MATERIALS	One 5-B:C (old 4-B:C acceptable to 1/1/73; or two 4-B:C acceptable after 1/1/73)
TANK VEHICLE TRANSPORTING ANY FLAMMABLE LIQUID	One 20-B:C (old 12-B:C acceptable) or two 10-B:C (old 6-B:C acceptable)

Guarding Requirements

The following pages are excerpted from *The Principles and Techniques of Mechanical Guarding*, published by the U.S. Department of Labor, Occupational Safety and Health Administration, OSHA 2057, revised May 1972.

Best Available Document

THE PRINCIPLES OF MECHANICAL GUARDING

All mechanical action or motion is hazardous, but in varying degrees. Rotating members, reciprocating arms, moving belts, meshing gears, cutting teeth, and parts in impact or shear are some examples of the types of action and motion requiring protection. They are not peculiar to any one machine or industry, but are basic to the mechanical devices used for productive purposes.

ACTIONS AND MOTIONS THAT CREATE HAZARDS

Since safety standards cannot be drawn which will cover every conceivable hazardous mechanical exposure, it is often necessary to use imagination and ingenuity to protect unusual situations. If the basic hazardous actions and motions are understood, it is easier to evaluate the hazard and to develop effective control measures, whatever the machine. Actions or motions involving the most hazardous exposures may be classified as:

Rotating, Reciprocating, and Transverse Motions.
In-Running Nip Points.
Cutting Actions.
Punching, Shearing, and Bending Actions.

A discussion of these actions or motions, along with typical illustrations of each, follows:

Rotating, Reciprocating, and Transverse Motions (see Figure I-1)

Rotating, reciprocating, and transverse motions create hazards in two general areas—at the point-of-operation where work is being done, and at the points where power or motion is being transmitted from one part of a mechanical linkage to another. Since guarding at the point-of-operation will be discussed under the other classifications of action or motion, this section will be devoted primarily to situations where power is being transmitted or the point-of-operation is not clearly defined (extractors, mixers, etc.).

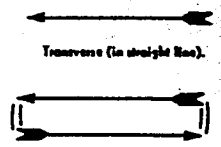
Any rotating object is dangerous. Even smooth, slowly rotating shafts can grip clothing or hair, and through mere skin contact force an arm or hand into a dangerous position. Accidents due to contact with rotating objects are not frequent, but the severity of injury is always high.

Collars, couplings, cams, clutches, flywheels, shaft ends, spindles, rotating bar stock, lead screws, and horizontal or vertical shafting are typical examples of common rotating mechanisms which are hazardous. The danger increases when bolts, oil cups, nicks, abrasions, and projecting keys or screw threads are exposed when rotating.

Rotating.

In many cases, the rotating mechanism is located within a stationary case or shell and consists of a revolving cylinder, a screw, agitator blades, or paddles. Washing machines, extractors, raw material mixers, and screw conveyers are typical examples of this type of hazardous rotating mechanism.

Reciprocating and transverse motions are hazardous because, in the back and forth or straight line action, a worker may be struck or caught in a pinch or shear point between a fixed or other moving object.



Transverse (in straight line).

Reciprocating.

In-Running Nip Points (see Figure I-2)

In-running nip points are a special danger existing only through action of rotating objects. Whenever machine parts rotate toward each other, or where one rotates toward a stationary object, an in-running nip point is formed. Objects or parts of the body may be drawn into this nip point and be bruised or crushed.

The in-running side of rolling mills and calenders, of rolls used for bending, printing, corrugating, embossing or feeding and conveying stock, the in-running side of a chain and sprocket, belt and pulley, a gear rack, a gear and pinion, and a belt conveyor terminal are typical examples of nip point hazards.

Cutting Actions (see Figure I-3)

Cutting action results when rotating, reciprocating, or transverse motion is imparted to a tool so that material being removed is in the form of chips. The danger of cutting action exists at the movable cutting edge of the machine as it approaches or comes in contact with the material being cut. Such action takes place at the point-of-operation in cutting wood, metal, or other materials as differentiated from punching, shearing, or bending by press action.

Typical examples of mechanisms involving cutting action include band and circular saws, milling machines, planing or shaping machines, turning machines, boring or drilling machines, and grinding machines.

Punching, Shearing, and Bending Actions (see Figure I-4)

Punching, shearing, or bending action results when power is applied to a ram (plunger) or knife for the purpose of blanking, trimming, drawing, punching, shearing, or stamping metal or other materials as differentiated from removing the material in the form of chips. The danger of this type of action lies at the point-of-operation where stock is actually inserted, maintained, and withdrawn.

Typical examples of equipment involving punching, shearing, or bending action include power presses, foot and hand presses, bending presses or brakes as well as squaring, guillotine, and alligator shears.

METHODS OF GUARDING ACTIONS AND MOTIONS

Whenever hazardous machine actions or motions are used, a means for providing protection for the operator and fellow workers is essential. And, there may be several ways to guard a situation, particularly at the point-of-operation.

This does not mean that certain guarding methods are not preferable to others, but the type of operation, the size or shape of stock, the method of handling, the physical layout, the type of material, and production requirements or limitations may present important considerations. A certain flexibility in operations may also determine the practicability of the method to be used.

As a general rule, power transmission apparatus can be protected by fixed enclosure guards. It is when guarding the point-of-operation, where work is being done on an object, that the most effective and practical of several means of guarding must be selected.

CLASSIFICATION OF GUARDS

The methods of guarding may be grouped under four main classifications:

1. Enclosure Guards
   a. Fixed enclosures.
   b. Adjustable enclosures.
2. Interlocking Guards
   a. Enclosure or gate guard with electrical or mechanical interlock.
   b. Barrier with electrical or mechanical interlock activating a brake.
   c. Electronic or other type field or beam connected with operating and stopping mechanism.
3. Automatic Guards
   a. Moving barrier connected to operating mechanism of machine (push-away).
   b. Removal device connected to operator, and operating mechanism of machine (pull-away).
   c. Limitation of stroke.
   d. Automatic pressure release devices.
4. Remote Control, Placement, Feeding, Ejecting
   a. Two-hand tripping devices (also multiple operation).
   b. Automatic or semiautomatic feed.
   c. Special jigs or holding devices.
   d. Special handtools and dies.
   e. Special ejecting devices.

Enclosure Guards (see Figure I-5)

Fixed enclosure guards should be used in preference to all other types. They prevent access to dangerous parts at all times by enclosing the hazardous operation completely. They are also used to restrain bursting machine parts from flying about. They admit the stock but will not admit hands into the danger zone because of limited feed opening size. They may be constructed so as to be adjustable to different sets of tools or dies, but once adjusted they should be fixed.

Enclosure guards may be installed at the point where cutting, bending, punching, or shearing action takes place on material being processed, and at other places where there may be a hazard to men inserting or manipulating stock. They may also be used to prevent contact with rotating, reciprocating, and transverse motion of machine members away from the point-of-operation.

Interlocking Guards (see Figure I-6)

When a fixed enclosure guard is not practicable, an interlocking enclosure or barrier should be considered as the first alternative.

An interlocking enclosure guard is not fixed and may be opened or removed as the operation requires. However, due to an electrical or mechanical interlocking connection with the operating mechanism, the operation of the machine is prevented until the guard is returned to an operating position and the operator can no longer reach the point of danger.

An interlocking enclosure guard should do three things:

1. Shut off or disengage the power to prevent the starting of the machine when the guard is open.
2. Guard the danger point before the machine can be operated.
3. Keep the guard closed until the dangerous part is at rest, or stop the machine when the guard is opened.

When gate guards or hinged enclosure guards are used with interlocks, they should be so designed as to completely enclose the point-of-operation before the operating clutch can be engaged.

An interlocking barrier guard quickly stops the machine or prevents application of injurious pressure when any part of the operator's body contacts the barrier. The barrier may be a bar, a rod, a wire, or some similar device (not an enclosure), extended across the danger zone and interlocked electrically or mechanically with a braking mechanism. Electrical interlocking devices should be so designed that if they fail, they fail safe, making the guarded machine inoperative.

Another type of interlocking barrier may be in the form of an electric-eye beam, a magnetic, radioactive or similar type circuit so designed and installed that when the operator's hand or any part of the body is in the danger zone, the machine cannot be operated, or if the hand or any part of the body is inserted while the machine is in motion, it will immediately activate a braking mechanism.

Automatic Guards (see Figure I-7)

When neither an enclosure guard nor an interlocking guard is practicable, an automatic guard may be used.

An automatic guard acts independently of the operator, repeating its cycle as long as the machine is in motion. This type of guard removes the operator's hands, arms, or body from the danger zone as the ram, plunger, or other tool closes on the piece upon which work is being done. It is operated by the machine itself through a system of linkages connected to the operating mechanism.

Common types of automatic guards are sweep and push-away devices which are moving barriers crossing the danger zone when the machine is activated, and pull-away devices consisting of hand and arm attachments which pull the operator away from the danger zone.

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Sweep and push-away devices should be designed to prevent the operator from reaching behind or across the protective device into the danger zone before the machine has completed its closing cycle. The device itself should not offer a hazard by creating a shear point between the moving guard and a stationary or moving part of the machine.

Automatic pressure release or pivoting arm devices provide utility, yet protect in-running nip point situations.

Remote Control, Placement, Feeding, Ejecting (see Figure I-8)

Although they are not guards in the technical sense, there are certain methods which can be used to accomplish the same effect, that is, of protecting the operator from the hazardous point-of-operation. They may be used to complement one of the other types of guards, or may be used in lieu of guards.

Two-handed operating devices may be used to activate the machine. These devices require simultaneous action of both hands of the operator on electrical switch buttons, air control valves, or mechanical levers. On presses with a noninterrupting stroke, two-handed operating devices should require manual operation until a point is reached in the cycle at which the hazard ceases. Hand controls may be interconnected with foot controls to permit operation of the machine. The actuating controls should be so located as to make it impossible for the operator to be able to move his hands from the controls to the danger zone before the machine has completed its closing cycle. The two-handed controls should be so designed as to prevent the blocking, tying down, or holding down of one control to allow one hand free access to the point-of-operation. When more than one man is working a machine, additional controls should be installed and designed so that all men must simultaneously activate the starting mechanism from remote locations.

Automatic or seminutomatic feeding mechanisms such as roll, plunger, chute, slide and dial feeds, and revolving dies may be used in conjunction with ram enclosures. Special soft metal handtools may be used to place or remove parts in conjunction with an enclosure, interlocking or automatic guard. Special jigs, holding device and dies may be used to manipulate stock at the point-of-operation, yet keep hands safe. Mechanical or air-operated ejecting mechanisms may be used to remove parts, thus eliminating the need for the hands to be placed in the danger zone.

The theory behind these methods is that if for good reason it is impossible to completely enclose or isolate the hazard, the next best device or combination of devices should be used to keep the exposure to a minimum.

THE TECHNIQUES OF MECHANICAL GUARDING

It is recognized that a given situation—a hazard-creating motion or action—may frequently be guarded in a number of ways, several of which may be satisfactory. The selection of guarding method to be used may depend upon a number of things—space limitations, production methods, size of stock, frequency of use, and still other factors may be important in making the final decision. It is not the intent of this bulletin to suggest which method of guarding is the best for a given situation, but rather to show that there are a number of ways to guard each different condition. This will be done by illustrative typical situations which may be guarded by a variety of methods.

In the illustrations, the various motions and actions are shown with typical guards illustrating the various guarding techniques. It is not possible to apply all of the guarding techniques to all of the motions or actions, but an effort has been made to show those that are frequently found in industry.

GUARDING ROTATING, RECIPROCATING, OR TRANSVERSE MOTIONS

Rotating, reciprocating, and transverse motions are forms or directions of motion that are used for a variety of purposes. They may be used to transmit power, as for example a revolving shaft or pulley (rotating), a moving piston (reciprocating), or a moving belt (transverse). Motions are also used to perform work by giving action to a tool or die which performs a cutting or shearing action. Thus, a circular saw or milling cutter (rotating), a metal planer or shaper (reciprocating), or a band saw (transverse) are examples of using motion to perform useful work by means of a tool.

Motion is also used as a means of performing work without the cutting action of tools. A centrifugal extractor or dough mixer (rotating), a shaker screen (reciprocating), or a belt or screw conveyor (transverse) are examples of using the energy of motion to perform useful work.

See Figure I-9.

GUARDING IN-RUNNING NIP POINTS

In-running nip points may exist under two broad classes of conditions, namely:

1. Those purposely created to do useful work.
2. Those which are incidental to the transmission of power or the application of motion, the nip point itself doing no useful work.

Nip points that are purposely created to do useful work would include situations such as calender rolls used for finishing paper, rolls used for mixing ink or rubber, and rolling mills used for reducing the thickness of or changing the shape of metals.

Nip points created incidental to the transmission of power would include the nip point of a belt and pulley, the meshing of gears, or the take-off point of a belt conveyor. Nip points created incidental to the application of motion would include the nip or pinch point of the moving bed of a metal planer with the frame of the machine or an adjacent fixed object.

In any case, guarding is necessary and various means may be used to provide protection.

See Figure I-10.

GUARDING CUTTING ACTIONS

Cutting action is involved in the whole range of machine tools used for cutting metal, also for machines used for working on wood. The characteristic of a machine tool is that the metal removed is in the form of chips. This characteristic also applies to machines used for cutting wood, although woodworking machines are not referred to as machine tools. Many machines used in the food, plastic, paper, or textile industries, as well as other industries, also employ cutting action. The hazard lies at the point where cutting takes place.

Various forms of motion may be involved in cutting action, but the kind of motion is not the determining factor in selecting the best guarding method. In many cases, a choice of guarding methods is available.

See Figure I-11.

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GUARDING PUNCHING, BENDING, AND SHEARING ACTIONS

Punching, bending, and shearing actions differ from cutting actions in that material is not removed in the form of chips. This class of action is used primarily to form or shape metals, but may be used on materials other than metal, as for example, plastics, fabrics, and papers.

Punching, bending, and shearing actions are particularly hazardous with respect to the severity of injury inflicted, many such injuries resulting in amputations or other permanent disability. As in the case of cutting actions, the hazard is at the point-of-operation.

See Figure I-12. Figure I-13 shows the allowable openings for point-of-operation guards.

GUARD CONSTRUCTION AND SPECIFICATIONS

Machine guards to be effective must be built in accordance with recognized standards of construction and of performance. They must be designed so as to eliminate the hazard, they must create no hazard of their own, they must be sturdy enough to withstand normal wear, and they should not interfere with production.

Standards of construction and performance have been developed and refined so that adequate guidelines are now available for anyone purchasing or building guards for most kinds of machines.

Size of Framework Materials (see Figure I-14)

(1) Minimum dimensions of materials for the framework of all guards except as noted in paragraph 3 shall be angle iron 1 inch × 1 inch × ¼ inch, metal pipe of ¾ inch inside diameter or metal construction of equivalent strength.

All guards shall be rigidly braced every 3 feet or fractional part of their height to some fixed part of machinery or building structure. Where guard is exposed to contact with moving equipment, additional strength may be necessary.

(2) The framework for all guards fastened to floor or working platform and without other support or bracing shall consist of 1½ inch × 1½ inch × ⅛ inch angle iron, metal pipe of 1½ inch inside diameter or metal construction of equivalent strength. All rectangular guards shall have at least four upright frame members each of which shall be carried to the floor and be securely fastened thereto.

Cylindrical guards shall have at least three supporting members carried to floor.

(3) Guards 30 inches or less in height and with a total surface area not in excess of 10 square feet may have a framework of ⅜ inch solid rod, ⅝ inch × ⅝ inch × ⅛ inch angle or metal construction of equivalent strength.

Method of Fastening Filler to Frame (see Figure I-15)

(1) With rivets or bolts spaced not more than 5 inches center to center. In case of expanded metal or wire mesh, metal strips or clips shall be used to form a washer for rivets or bolts.

(2) By welding to frame every 4 inches.

(3) By weaving through channel or angle frame; or if No. 14 gage ½ inch mesh or heavier is used, by bending entirely around rod frames.

(4) Where openings in pipe railing are to be filled in with expanded metal, wire mesh, or sheet metal, the filler material shall be made into panels with rolled edges or bound with "V" or "U" edging of No. 24 gage or heavier sheet metal fastened to the panels with bolts or rivets spaced not more than 5 inches center to center. The bound panels shall be fastened to the railing by sheet-metal clips spaced not more than 5 inches center to center.

Note: Diamond or square mesh made of crimped wire fastened into channels, angle or round-iron frames, may also be used as a filler in guards.

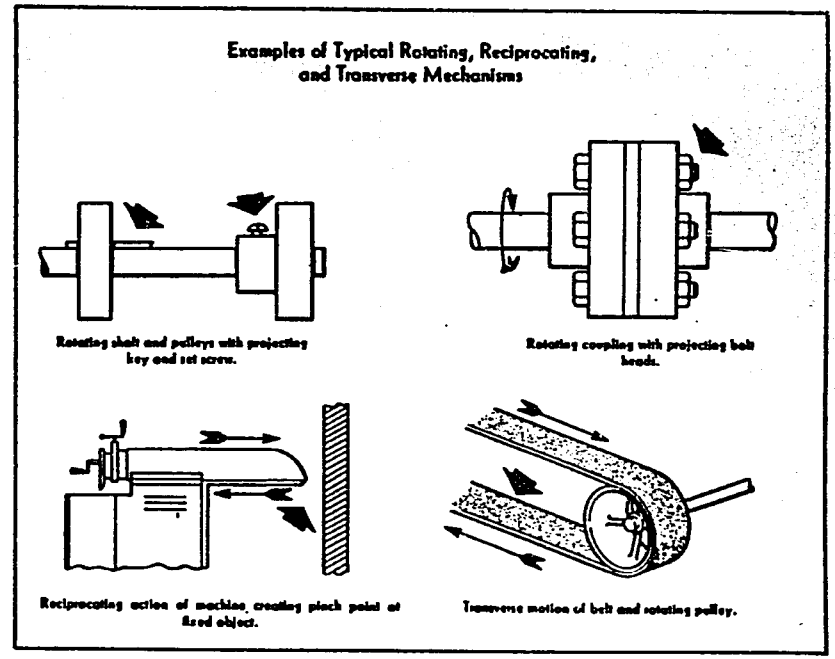

Figure I-1

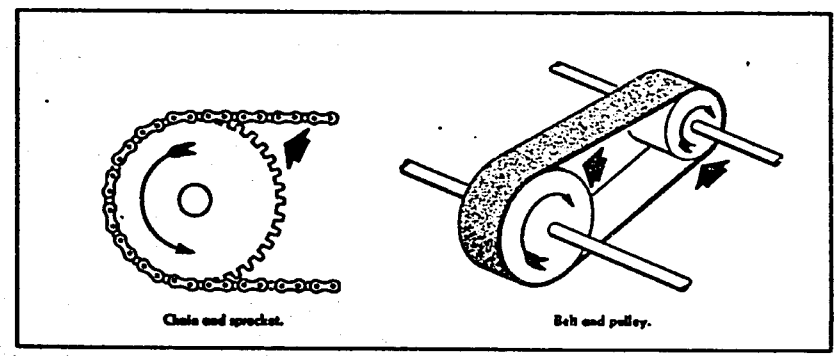

Figure I-2

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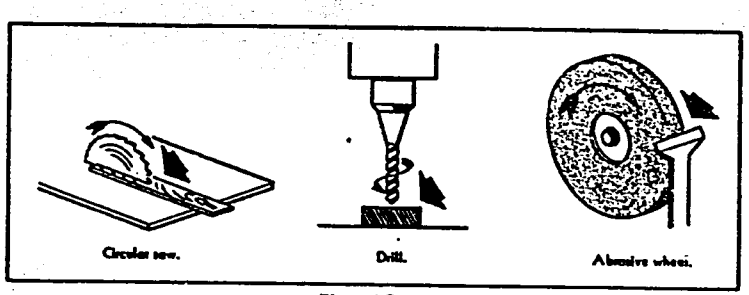


Figure I-3

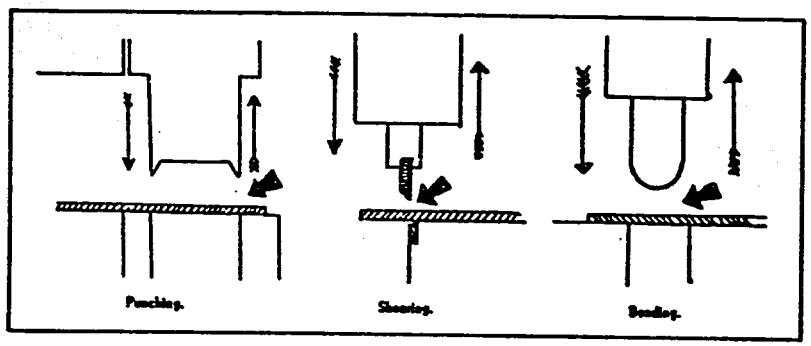


Figure I-4

Methods of Guarding Actions and Motions—Enclosure Guards

Guarding methods	Guard action	Limitations
Fixed enclosure.....	Barrier or enclosure which admits the stock but which will not admit hands into danger zone because of feed opening size, remote location, or unusual shape. Also used to completely enclose power transmission apparatus. Used to contain bursting machine parts.	Limited to specific operations. May require special tools to remove jammed stock. May interfere with visibility. Require interlocks for repair or maintenance work.
Adjustable enclosure..	Barrier or enclosure which is adjusted to fit around different sizes or shapes of the die. When adjusted, provides same protection as fixed enclosure.	Often requires frequent adjustment and careful maintenance.

Figure I-5

Methods of Guarding Actions and Motions—Interlocking Guards

Guarding methods	Guard action	Limitations
Enclosure with electrical or mechanical interlock.	Enclosure or barrier shuts off or disengages power and prevents starting of machine when guard is open; prevents opening of the guard while machine is under power or coasting. (Interlocks should not prevent manual operation or "inching" by remote control.)	Requires careful adjustment and maintenance. Operator may be able to make guard inoperative. Does not protect in event of mechanical repeat.
Barrier with electric contact or mechanical stop activating mechanical or electric brake.	Barrier quickly stops machine or prevents application of injurious pressure when any part of the operator's body contacts it or approaches danger zone.	Requires careful adjustment and maintenance. Possibility of minor injury before guard operates. Operator can make guard inoperative.
Electric eye.....	Electric-eye beam and brake quickly stops machine or prevents its starting if the hands are in the danger zone.	Expensive to install. Does not protect against mechanical repeat. Generally limited to use on slow-speed machines with friction clutches or other means to stop the machine during the operating cycle.

Figure I-6

Methods of Guarding Actions and Motions—Automatic Guards

Guarding methods	Guard action	Limitations
Push-away device with barrier.	A movable barrier, attached to pressure part, pushes or lifts hands out of danger zone.	Hands must be in normal position for guard to be effective. Hands may be caught by guard. Possible interference with feeding stock. Slow action may decrease production. Does not permit blanking.
Pull-away device.....	A cable operated attachment on ram, connected to the operator's hands or arms to pull the hands back only if they remain in the danger zone; otherwise, it does not interfere with normal operation.	Requires unusually good maintenance, adjustment to each operator, and frequent inspection necessary. Limits movement of operator. May obstruct workspace around operator. Does not permit blanking from hand-fed strip stock from side of press.
Limitation of stroke.....	Plunger travel limited to ¼ inch or less; fingers cannot enter between pressure points.	Small opening limits size of stock.

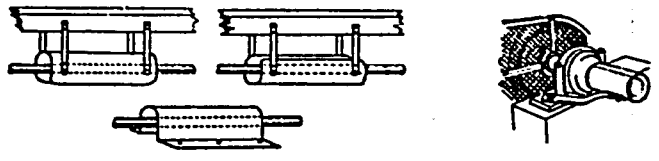
Figure I-7

Methods of Guarding Actions and Motions—Remote Control, Placement, Feeding, Ejecting

Guarding methods	Guard action	Limitations
Two-hand trip (can be adapted to multiple operation).	Simultaneous pressure of two hands on switch buttons in series actuates machine.	Operator may try to reach into danger zone after tripping machine.
	Simultaneous pressure of two hands on air control valves, mechanical levers, controls interlocked with foot controls, or the removal of solid blocks or stops permits normal operation of machine.	Does not protect against mechanical repeat unless blocks or stops are used. Some trips can be rendered unsafe by holding with the arm, blocking or tying down one control, thereby permitting one-hand operation. Cannot be used for some blanking operations.
Automatic or semiautomatic feed (with enclosure of danger points).	Stock fed by chutes, hoppers, conveyors, movable dies, dial feed rolls, etc. Enclosure will not admit any part of body.	Excessive installation cost for short run. Requires skilled maintenance. Not adaptable to variations in stock.
Special jigs or feeding devices.	Hand-operated feeding devices of metal or wood which keep the operator's hands at a safe distance from the danger point.	Machine itself not guarded; safe operation depends upon correct use of device. Requires good employee training and close supervision. Suitable for limited types of work.
Special tools or handles on dies.	Long handled tongs, vacuum lifters, or hand die holders which avoid need for operator putting his hand in the danger zone.	Operator must keep his hands out of danger zone. Requires unusually good employee training and and close supervision.
Special ejecting devices...	Air or mechanical ejection.....	Limited size of stock. Use in conjunction with other guarding methods.

Figure I-8

Guarding Rotating Motion by Enclosure Guards

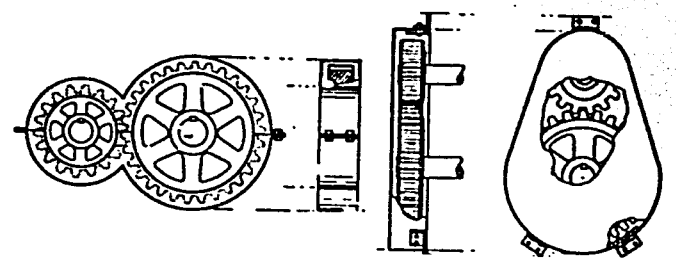


Horizontal shafting.

Sleeve for shaft end.

Figure I-9

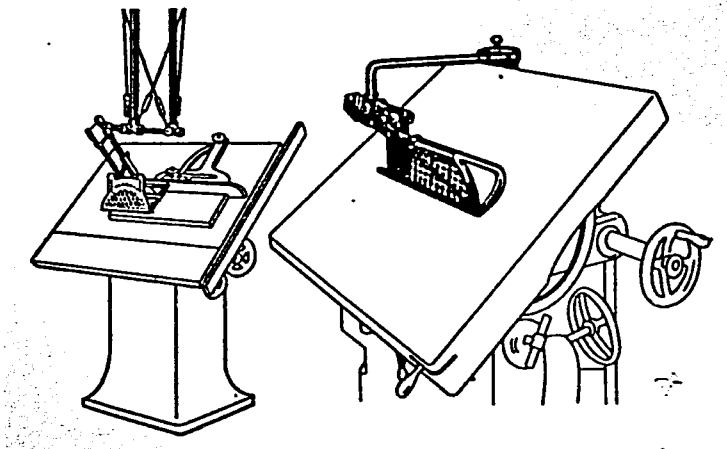
Guarding In-Running Nip Points by Enclosure Guards



Spur gear guards.

Figure I-10

Guarding Cutting Actions by Enclosure Guards



Tilting table saw guard.

Figure I-11

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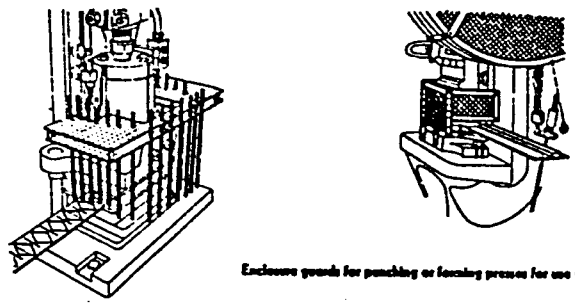
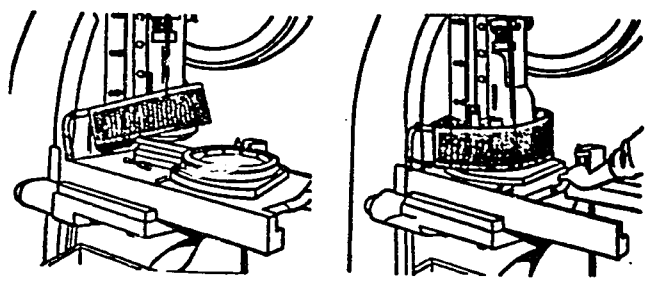
Guarding Punching or Bending Actions by Enclosure Guards



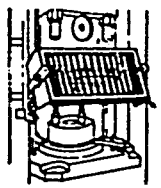
Enclosure guards for punching or forming presses for use with strip feeding.

Guarding Punching or Bending Actions by Barrier Guards

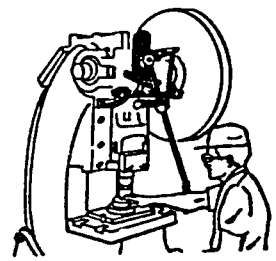


Stock is fed into die outside of danger zone. Hinged barrier guard closes automatically when sliding die is moved into position.

Gate guard on punch press. Guard is interlocked with tripping device of press so that plunger cannot descend until gate is in closed position.



Guarding Punching or Bending Actions by Interlocking Guards



Guarding Punching or Bending Actions by Automatic Guards

Figure I-12

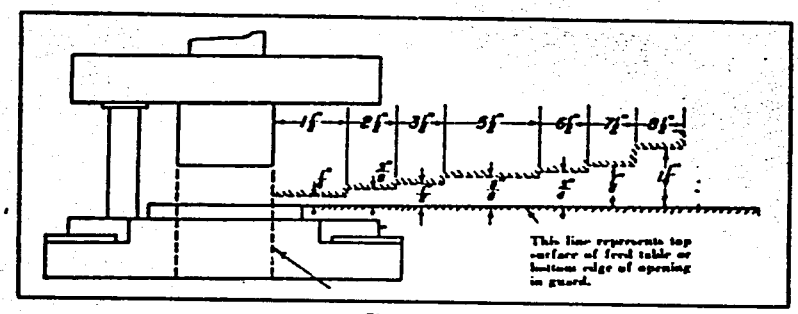
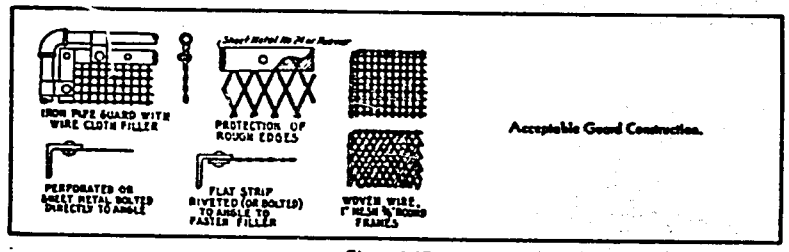


Figure I-13

Size of Filler Materials

Material	Clearance from moving part at all points	Largest mesh or opening allowable	Minimum gage (U.S. standard) or thickness	Minimum height of guard from floor or platform level
	(Inches)	(Inches)		Feet-Inches
Woven wire	Under 2	½	No. 16	7-0
	2-4	½	No. 16	7-0
	Under 4	½	No. 16	7-0
	4-15	2	No. 12	7-0
Expanded metal	Under 4	½	No. 18	7-0
	4-15	2	No. 13	7-0
Perforated metal	Under 4	½	No. 20	7-0
	4-15	2	No. 14	7-0
Sheet metal	Under 4		No. 22	7-0
	4-15		No. 22	7-0
Wood or metal strip crossed	Under 4	½	Wood ¾ inch or Metal No. 16	7-0
	4-15	2		
Wood or metal strip not crossed	Under 4	½ width		
	4-15	1 width		
Standard rail	Minimum 15			
	Maximum 20			

Figure I-14



Acceptable Guard Construction.

Figure I-15

Personal Protective Equipment Requirements

Subpart I—Personal Protective Equipment

§ 1910.132 GENERAL REQUIREMENTS.

(a) *Application.* Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

(b) *Employee-owned equipment.* Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

(c) *Design.* All personal protective equipment shall be of safe design and construction for the work to be performed.

§ 1910.133 EYE AND FACE PROTECTION.

(a) *General.* (1) Protective eye and face equipment shall be required where there is a reasonable probability of injury that can be prevented by such equipment. In such cases, employers shall make conveniently available a type of protector suitable for the work to be performed, and employees shall use such protectors. No unprotected person shall knowingly be subjected to a hazardous environmental condition. Suitable eye protectors shall be provided where machines or operations present the hazard of flying objects, glare, liquids, injurious radiation, or a combination of these hazards.

(2) Protectors shall meet the following minimum requirements:

(i) They shall provide adequate protection against the particular hazards for which they are designed.

(ii) They shall be reasonably comfortable when worn under the designated conditions.

(iii) They shall fit snugly and shall not unduly interfere with the movements of the wearer.

(iv) They shall be durable.

(v) They shall be capable of being disinfected.

(vi) They shall be easily cleanable.

(vii) Protectors should be kept clean and in good repair.

(3) Persons whose vision requires the use of corrective lenses in spectacles, and who are required by this standard to wear eye protection, shall wear goggles or spectacles of one of the following types:

(i) Spectacles whose protective lenses provide optical correction.

(ii) Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles.

(iii) Goggles that incorporate corrective lenses mounted behind the protective lenses.

(4) Every protector shall be distinctly marked to facilitate identification only of the manufacturer.

(5) When limitations or precautions are indicated by the manufacturer, they shall be transmitted to the user and care taken to see that such limitations and precautions are strictly observed.

(6) Design, construction, testing, and use of devices for eye and face protection shall be in accordance with American National Standard for Occupational and Educational Eye and Face Protection, Z87.1-1968.

EYE PROTECTION

The standards *require* that employers shall supply suitable eye and face protection where machines or operations present the hazard of flying objects, glare, liquids, injurious radiation, or a combination of these hazards, and that employees shall use such protectors. These devices shall be designed, constructed, tested, and used in accordance with the American National Standard for Occupational and Educational Eye and Face Protection Z87.1-1968.

Eye Protector Specifications

1. Frames shall:
   - *a.* Be distinctly marked so that the manufacturer can be identified.
   - *b.* Be made of materials that are able to withstand ANSI disinfection, corrosion-resistance, water-absorption, and flammability tests.
   - *c.* Contain lens supports that are able to withstand the ANSI fracture-resistance test.
   - *d.* Have metal frames that are able to withstand the ANSI joint test and both the flat and transverse tests.
   - *e.* Be made of plastic that is able to withstand the ANSI flat and edge transverse tests.
   - *f.* Have a combination metal and plastic frame that is able to withstand the ANSI joint test, and the flat and edge transverse tests.
   - *g.* Not be street-wear frames. Street-wear frames with safety lenses are prohibited.
2. Lenses shall be:
   - *a.* Not less than 3.0 mm thick.
   - *b.* Distinctively marked with the manufacturer's monogram.
   - *c.* Capable of withstanding the ANSI impact resistance test.
   - *d.* Plastic lenses shall be capable of withstanding the ANSI penetration resistance test and the ANSI flammability test as well.
3. Goggles shall:
   - *a.* Have frames which bear the manufacturer's trademark.
   - *b.* Have lenses which are distinctively marked with the manufacturer's mark.
   - *c.* Withstand the ANSI impact resistance test.
4. Face shields shall
   - *a.* Be able to withstand the ANSI test.
5. Helmets shall be ANSI approved.

The selection chart on page 28 of ANSI Z87.1 illustrates recommended eye and face protection together with an application chart. Note that application chart lists operations, hazards, and recommended protectors. Visitor Specs are not included in the Z87.1 code and therefore are not recommended for protection of production workers.

The OSHA standards state that when limitations or precautions are indicated by the manufacturer, they shall be transmitted to the user and care taken to see that such limitations and precautions are strictly observed.

§ 1910.135 OCCUPATIONAL HEAD PROTECTION.

Helmets for the protection of heads of occupational workers from impact and penetration from falling and flying objects and from limited electric shock and burn shall meet the requirements and specifications established in American National Standard Safety Requirements for Industrial Head Protection, Z89.1-1969.

HEAD PROTECTION

The standards require that occupational head protection shall be provided and used where a hazard exists that could cause injury to workers' heads. These hazards are impact and penetration from falling and flying objects and from limited electric shock and burn.

Safety hats and caps shall meet the requirements of American National Standard Safety Requirements for Industrial Head Protection, Z89 1-1969.

Types and classes of Industrial Head Protection are listed on page 7 of ANSI Z89.1. These are:

Type 1 — Helmet, full brim
Type 2 — Helmet, brimless, with peak
Class A — Limited voltage protection
Class C — No voltage protection
Class D — Limited voltage protection, Firefighters' Service, Type 1, only

Marking requirements are shown on page 8 of ANSI Z89.1. These consist of:

Name of manufacturer
ANSI Z89.1-1969
Class

§ 1910.136 OCCUPATIONAL FOOT PROTECTION.

Safety-toe footwear for employees shall meet the requirements and specifications in American National Standard for Men's Safety-Toe Footwear, Z41.1-1967.

NOISE PROTECTION

Protection against occupational noise exposure is required when sound levels exceed 90 dBA. Hearing protection shall comply with ANSI Standard Z24.22-1957 Method of Measurement of Real-Ear Attenuation of Ear Protectors at Threshold.

The use of personal protective equipment or engineering controls shall be used to reduce sound levels within the following table.

Permissible Noise Exposures

Duration per day, hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115

In all cases where the sound level exceeds values shown in the table, a continuing effective hearing conservation program shall be administered.

RESPIRATORY PROTECTION

The requirements for respirators are lengthy and spelled out in detail. It is first necessary to determine if a hazard exists requiring the use of respirators. The compliance officer's checklist is given on page 182.

GENERAL

1. Generally, the compliance officer will look for the following:
   a. That approved protection is used where there is a probability of eye, head, hearing, or respiratory injury.
   b. Protective equipment is cleaned, maintained, and issued.
   c. Nonapproved items, such as visitors specs, bump caps, and nuisance dust respirators, are used where approved equipment is required.
2. Safety spectacles will be examined to determine:
   a. That frames support safety lenses entirely around the periphery.
   b. That street-wear frames and lenses are not used on hazardous operations. (Impact-resistant street-wear lenses required by the new Food and Drug Administration Act after December 31, 1971, must withstand an impact test of *only* ⅝-inch-diameter steel ball dropped from a height of 50 inches.)
   c. That full permanently attached sideshields are used where a hazard of flying particles from the side of the wearer exists. Half-sideshields, snap-on, or clip-on types are not acceptable.
3. In checking face shields, he will look for:
   a. Minimum plastic window thickness of .040 inches.
   b. Minimum face shield length of 6 inches.
   c. In severe exposure cases, spectacles and goggles worn under face shield.
4. In checking welding helmets, he will check that the stationary plate on a lift-front helmet is impact-resistant. (Cover plates and filter plates need not be impact-resistant at this time.)

CHECKLIST FOR RESPIRATORY PROGRAM INSPECTION

1. *Administration of Program*
   - 1.1 One individual vested with authority for program? _____ (Name)
   - 1.2 Program administrator qualified (knowledge of all aspects of program and equipment used)? _____
2. *SOPs*
   - 2.1 Policy statement? _____
   - 2.2 Detailed SOP covering training and education of user? _____
   - 2.3 Detailed SOP on fitting procedures? _____
   - 2.4 Detailed SOP on cleaning and maintenance? _____
   - 2.5 Detailed SOP for selection and use (includes possible emergencies)? _____
   - 2.6 Detailed SOP for inspection? _____
3. *Inspection of Program*
   - 3.1 Respirators used only when necessary (engineering controls not feasible or being instituted)? _____
   - 3.2 Training and education of user (Z88.2, sections 3.5.3 and 7.4)? _____
   - 3.3 Fitting of respirators (as per Z88.2, section 7.5)? _____
     - 3.3.1 Type fitting: Qualitative _____
       Quantitative _____
       - 3.3.1.1 Challenge aerosol _____
     - 3.3.2 If quantitative fitting, is equipment adequate and in good condition? _____
     - 3.3.3 Fitting tests performed properly? _____
     - 3.3.4 Instructor personnel knowledgeable and competent? _____
     - 3.3.5 Adequate records maintained? _____
   - 3.4 Selection, use, and issue
     - 3.4.1 Selection by qualified competent individuals? _____
     - 3.4.2 Records of issues? _____
     - 3.4.3 Proper labeling of personnel issue masks? _____
     - 3.4.4 Are masks being used properly? _____
     - 3.4.5 Using approved or accepted devices? _____
     - 3.4.6 Sufficient protection afforded by devices? _____
   - 3.5 Cleaning and maintenance
     - 3.5.1 Cleaner-disinfectant used for washing? _____
     - 3.5.2 Wash water temperature (120–140°)? _____
     - 3.5.3 Washing: Hand _____ Machine _____
     - 3.5.4 Drying: Air _____ Machine or cabinet _____
     - 3.5.5 Complete inspection and repair after laundering (including leak check)? _____
     - 3.5.6 Masks individually bagged after cleaning and repair? _____
     - 3.5.7 Reuse of canisters or filters?
       - 3.5.7.1 Reusing sorbent canisters (no)? _____
       - 3.5.7.2 Reusing high efficiency filters? _____
         - 3.5.7.2.1 Acceptable quality assurance test program for reuse of high efficiency filters? _____
           - 3.5.7.2.1.1 How? _____
     - 3.5.8 Competent, experienced personnel? _____
   - 3.6 Storage
     - 3.6.1 Clean area (not likely to become contaminated)? _____
     - 3.6.2 Controlled temperature, not exposed to direct sunlight? _____
     - 3.6.3 Storage cabinets, bins, or shelves? _____
       - 3.6.3.1 Clearly labeled? _____
   - 3.7 Inspection
     - 3.7.1 Emergency devices?
       - 3.7.1.1 How often (at least monthly)? _____
     - 3.7.2 Routine use devices
       - 3.7.2.1 How often (before and after each use and at least monthly)?
   - 3.8 Surveillance of program
     - 3.8.1 Continuing? _____
       - 3.8.1.1 How (bioassays, air sampling, etc.)? _____

Noise Guidelines

GUIDELINES TO THE DEPARTMENT OF LABOR'S OCCUPATIONAL NOISE STANDARDS

Introduction

Noise has long been recognized as a cause of occupational loss of hearing. Some companies have for many years taken steps to reduce noise levels and the exposure of their employees to them. In promulgating noise standards under the Walsh-Healey Public Contracts Act, the Department of Labor merely made mandatory minimum standards which have proved both practical and effective in preventing hearing loss in many plants.

Measurement, control, and protection against noise is a somewhat technical subject and one with which plant management, which is responsible for the enforcement of safety regulations, may not be familiar. Therefore, this paper:

First, explains the terms used in section 50-204.10 and later in section 1910.95 of the Occupational Safety and Health Standards, as amended and first published in the Federal Register on May 20, 1969.

Second, explains just what is expected of the employer in order to be in compliance with the requirements.

Third, specifies certain instruments, equipment, and procedures which will be acceptable as a basis for judging compliance. These latter points are of particular interest to technical personnel, either at the plant or engaged on a consultative basis, to assist them in developing and carrying out the required controls and procedures.

This paper is equally applicable to employers currently covered by the McNamara-O'Hara Service Contract Act and by the Williams-Steiger Occupational Safety and Health Act of 1970.

Determining Sound Level Exposures, and Permissible Limits

Basically, section 50-204.10 and section 1910.95 set maximum permissible noise levels and exposures, and explain the types of corrective action which must be taken if these noise levels are exceeded.

Paragraph (a) of this section states:

"(a) Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table I of this section when measured on the A scale of a standard sound level meter at slow response . . . ."

Loss of hearing occurs as a result of the cumulative effect of exposure to sound above a maximum intensity and over a maximum duration in a given period of time. For the purpose of this standard, the basic permissible intensity is 90 dBA for a duration of 8 hours out of a day. The amount of sound energy absorbed during such an exposure is considered to be the upper limit of a daily dose which will not produce disabling loss of hearing in more than 20 percent of the exposed population.

Table I indicates the duration of exposure to higher sound intensities which will result in no more damage to hearing than produced by 8 hours at 90 dBA. Employees must not be exposed to steady sound levels above 115 dBA, regardless of the duration.

TABLE I

PERMISSIBLE NOISE EXPOSURES 1/

Duration per day, hours	Sound level dBA slow
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115

1/ When the daily noise exposure is composed of two or more periods of noise exposure at different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: C1/T1 + C2/T2. . . .Cn/Tn exceeds unity, then, the mixed exposure should be considered to exceed the limit value. Cn indicates the total time of exposure at a specified noise level, and Tn indicates the total time of exposure permitted at that level.

The abbreviation dB in the right-hand column of the table stands for decibels, the unit of measurement of sound levels. The A scale is one of several on the sound level meter, a measuring instrument used to determine sound intensity. On this scale, the instrument reacts in much the same way as does the human ear in that it is much less responsive to low pitched tones than to those of higher pitch. The "slow" response is another setting of the instrument which causes it to average out high level noises of brief duration (such as hammering), rather than responding to the individual impact noises.

It is important to note that decibels are measured on a logarithmic rather than a linear scale. Every increase of 10 dB represents an increase of approximately 300 percent in sound pressure. A 100 dB noise is, therefore, 3 times as intense as a 90 dB noise, rather than about 10 percent more intense, as might be expected. Illustrated another way, if one machine produces a sound level of 90 dB, a second machine of the same kind placed next to it will result in a combined noise level of 93 dB, rather than 180 dB, which might be expected.

Exposures at Different Sound Levels

The footnote to Table I describes the method by which several separate exposures to different sound levels during a day are to be treated in determining whether or not the combined exposure is within permissible limits.

As an illustration, assume that an employee works most of the day in an area in which the sound level is 90 dBA, but for 15 minutes out of each of 7 hours, he is in an area of 100 dBA, and for one 15-minute period each day, he is in an area of 105 dBA.

This adds up to 6 hours at 90 dBA: permissible duration of exposure, 8 hours; 1-3/4 hours at 100 dBA: permissible exposure, 2 hours; and 1/4 hour at 105 dBA: permissible exposure, 1 hour. Tabulating it, we have:

dBA	Actual Time C (hours)	Permissible Time T (hours)
90	6	8
100	1 3/4	2
105	1/4	1

Putting these values into an equation, we get:

$$\frac{6}{8} + \frac{1.75}{2} + \frac{0.25}{1} = \frac{6}{8} + \frac{7}{8} + \frac{2}{8} = \frac{15}{8} = 1.87$$

Since this total exceeds unity, the daily exposure is above the permissible limit, even though the total exposure at each sound level is below the permissible duration for that level.

No matter how briefly a person is exposed to higher sound pressure levels, if he spends the remainder of the day at a level of 90 dBA, his exposure will exceed the permissible limit. Only by being in an area having a sound level well below 90 dBA can his exposure to higher levels be compensated.

Assuming that the 6 hours are spent in areas of relatively low sound pressure levels, are the two exposures to higher levels permissible?

The equation becomes:

$$\frac{1.75}{2} + \frac{0.25}{1} = \frac{1.75 + 0.50}{2} = \frac{2.25}{2} \text{ or } 1.125.$$ This is still greater than unity and, therefore, not permissible. Either the exposure to the 100 dBA level would have to be reduced to 1.5 hours or the exposure to the 105 dBA level to 0.125 hours or 7 1/2 minutes in order not to exceed the permissible total exposure.

$$\frac{1.5}{2} + \frac{0.25}{1} = \frac{2.0}{2} = 1 \text{ or } \frac{1.75}{2} + \frac{0.125}{1} = \frac{2.0}{2} = 1$$

Impulse or Impact Noise

The last sentence of sections 50-204.10 and 1910.95 states:

> "Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level."

This sets the upper limit of sound level to which a person should be exposed, regardless of the brevity of the exposure.

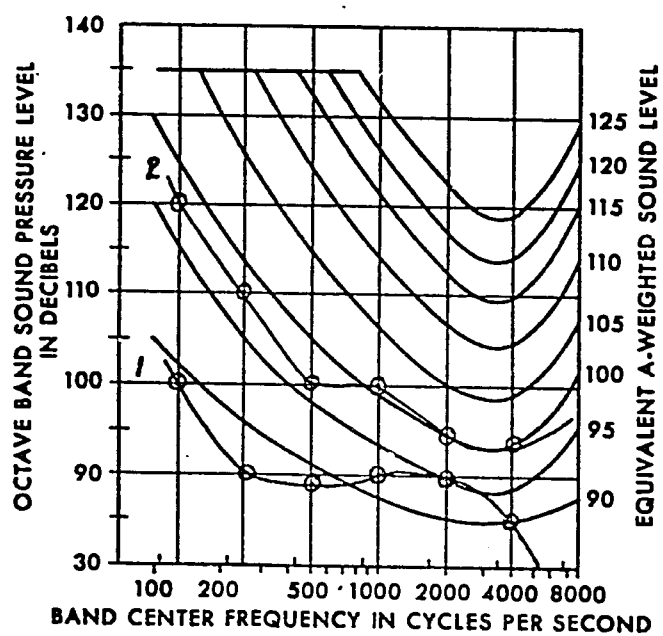
In contrast with the 115 dBA upper limit for steady noise, the higher intensity for impact noise is permissible because the noise impulse resulting from impacts, like hammer blows or explosive processes, is past before the ear has time to react fully. Impact noise levels are to be measured only with an impact meter or an oscilloscope.

Converting Octave Band Analyzer Readings

Many plants have done a great deal of noise control work based on measurements taken with the type of instrument that measures the sound level at each of a number of frequencies, or pitches, of the sounds produced rather than the overall total noise, as measured by the sound level meter. A chart is provided in the regulations to permit readings obtained from an octave band analyzer to be converted to corresponding values as indicated in Table I.

Sections 50-204.10 and 1910.95, paragraph (a), second sentence, state:

> When noise levels are determined by octave band analysis, the equivalent A-weighted sound level may be determined as follows:



Equivalent sound level contours. Octave band sound pressure levels may be converted to the equivalent A-weighted sound level by plotting them on this graph and noting the A-weighted sound level corresponding to the point of highest penetration into the sound level contours. This equivalent A-weighted sound level, which may differ from the actual A-weighted sound level of the noise, is used to determine exposure limits from Table I.

The above graph illustrates in a general way what was said previously about the response of a sound level meter working on the A scale. It minimizes, as does the ear, the low frequency sounds and emphasizes, as does the ear, the high frequency sound. Thus, a 90 dB reading on the A scale may include as high as 105 dB at 125 cycles per second, but would accept no more than 89 dB at 2,000 and 4,000 cycles per second.

To illustrate use of the graph in converting octave band readings into A-scale sound level meter readings, two sets of values of octave band readings have been plotted. The series numbered 1 shows readings at or below the 90 dBA curve, except at 2,000 cycles per second, where the reading falls on the 95 dBA curve. In this case, the sound level for use of Table I should be taken as 95 dBA. In the series marked 2, all the readings are below the 100 dBA curve, except at 1,000 cycles, where the reading is just on the curve. One hundred dBA would therefore be the value to be used in Table I.

As noted in the explanation of the graph, the actual sound levels measured with a sound level meter on the A scale may differ somewhat from the values determined by plotting the readings from an octave band analyzer on the graph. These differences, for most sounds, are of the same order of magnitude as the errors to be expected in the measurement and are not important. The intention was to provide a simple and relatively accurate means of conversion from one system of measurement to another to accommodate existing, effective plantwide programs.

Variable Noises

Sections 50-204.10 and 1910.95 state the final consideration in determining whether or not a permissible sound level is being exceeded:

> "If the variations in noise level involve maxima at intervals of 1 second or less, it is to be considered continuous."

This means that where the sound level meter on the A scale at slow response moves up from a generally steady reading, say from 88 to 92 dB, at intervals of one second or less, the high reading shall be taken as that to be used in Table I.

As a corollary to this, intermittent sounds of brief duration at intervals greater than one second should, as far as practical, be measured as to intensity and duration and the total duration over a day be ascertained. This total should be entered in the equation given in footnote 1/, Table I,

to determine the permissible limit. These intermittent sounds, which can be measured with a sound level meter, should not be confused with impulse sounds of very short duration resulting from impacts or explosions.

Control Measures

Paragraph (b) of sections 50-204.10 and 1910.95 refer to control measures to be taken:

> "(b) When employees are subjected to sound exceeding those listed in the Table of Permissible Noise Exposures, feasible administrative or engineering controls shall be utilized . . . ."

The Department of Labor considers "feasible" to mean the following, as stated in the Oxford English and Merriam-Webster Dictionaries: "Capable of being done, accomplished or carried out; capable of being dealt with successfully."

Engineering Noise Control Measures

Engineering controls are those which reduce the sound intensity either at the source of the noise or in the hearing zone of the workers.

The following are examples:

A. Maintenance

1. Replacement or adjustment of worn and loose or unbalanced parts of machines.
2. Lubrication of machine parts and use of cutting oils.
3. Properly shaped and sharpened cutting tools.

B. Substitution of Machines

1. Larger, slower machines for smaller, faster ones.
2. Step dies for single operation dies.
3. Presses for hammers.
4. Rotating shears for square shears.
5. Hydraulic for mechanical presses.
6. Belt drives for gears.

C. Substitution of Processes

1. Compression for impact riveting.
2. Welding for riveting.
3. Hot for cold working.
4. Pressing for rolling or forging.

D. Vibration Dampening

1. Increase mass.
2. Increase stiffness.
3. Use rubber or plastic bumpers or cushions.
4. Change size to change resonance frequency.

E. Reducing Sound Transmission Through Solids

1. Flexible mountings.
2. Flexible sections in pipe runs.
3. Flexible shaft couplings.
4. Fabric sections in ducts.
5. Resilient flooring.

F. Reducing Sound Produced by Fluid Flow

1. Intake and exhaust mufflers.
2. Fan blades designed to reduce turbulence.
3. Large, low speed fans for smaller, high speed fans.

G. Include Noise Level Specifications When Ordering New Equipment

H. Isolating Noise Sources

1. Completely enclose individual machines.
2. Use baffles.
3. Confine high noise machines to insulated room.

I. Isolating Operator

Provide a relatively sound-proof booth for the operator or attendant of one or more machines.

Controlling noise at the source, as illustrated by A through H1, is the ideal means of preventing noise induced hearing loss. The results are relatively long lasting; the operator of the individual machine is protected, as well as those employees at a distance from it, and there is no need for wearing protective equipment or following prescribed schedules of exposure. The measures listed under H2, H3, and I will, if effective, limit the number of persons exposed to high noise levels, but are unlikely to protect operators and those close to the noise sources.

A number of the listed controls can be accomplished quite inexpensively by plant personnel. Others require considerable expense and highly specialized technical knowledge to ensure the expected results. It is therefore strongly recommended that plants avail themselves of the services of competent acoustical engineers in planning and carrying out their noise control programs.

The Department of Labor expects employers to explore the possibility and practicability of controlling noise by engineering and to take all feasible measures before resorting to use of administrative controls or of personal protective equipment.

Administrative Controls

If noise cannot be reduced to permissible intensities through engineering controls, administrative controls should be developed in order to limit duration of workers' exposure to noise levels above 90 dBA to the times shown in the Table of Permissible Noise Exposures.

The following are examples:

1. Arrange work schedules so that employees working the major portion of a day at or very close to the 90 dBA limit are not exposed to higher noise levels.

2. Ensure that employees who have reached the upper limit of duration for a high noise level, in accordance with Table I, work the remainder of the day in an environment with a noise level well below 90 dBA.

3. Where the man-hours required for a job exceed the permissible time for one man in one day for the existing sound level, divide the work among two, three, or as many men as are needed, either successively or together, to keep individual noise exposure within permissible time limits.

4. If less than full-time production of a noisy machine is needed, arrange to run it a portion of each day, rather than all day for part of the week.

5. Perform occasional high level noise producing operations at night or at other times when a minimum number of employees will be exposed.

Measures such as these can often be instituted at little cost or effort, simply by introducing noise exposure as a factor in production planning. While not as satisfactory as controlling noise at its sources, administrative control measures are more easily enforced, than is the requirement to wear personal protective equipment. For this reason it is preferred.

Personal Protective Equipment

When engineering and administrative controls fail to bring noise levels or duration of exposure to them below permissible levels, the use of personal protective equipment is required, as stated in the second sentence of paragraph (b), sections 50-204.10 and 1910.95:

> "If such controls fail to reduce sound levels within the levels of the table, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table."

The use of personal protective equipment is considered by the Department to be an interim measure while engineering and administrative controls are being perfected. There will be very few cases in which the use of this equipment will be acceptable as a permanent solution to noise problems.

Some methods of control, such as providing an isolation booth for operators, or conducting noisy operations when few employees are in the plant, may require use of personal protective equipment by the operator when he must emerge from his booth to make adjustments, or by those few employees who carry on the noisy operation.

In addition, the regulations require both provision and use of personal protective equipment. How the latter is accomplished is up to the employer. The Department recommends, however, that an educational and promotional program precede initiation of required use of such equipment, and continue as long as necessary to achieve 100-percent acceptance by employees. In the absence of an observable high proportion of use, the Department would consider the lack of a training and promotional program as constituting a violation of the regulation.

Selection of Personal Protective Equipment

Cotton stuffed in the ears has little value and will not be accepted by the Department, because of the relatively small attenuation (reduction of noise level) and the care which must be taken in using it.

Fine glass wool can be used instead of cotton, because the attenuation which can be achieved is very good. It is an acceptable protective device.

Wax impregnated cotton, when properly inserted in the ear, provides protection equivalent to that provided by plugs or muffs. If supervisors can assure that this material is properly used and fresh material is provided daily, then this type of ear protection would be acceptable.

Properly fitted earplugs are essentially equal in attenuating ability to ear muffs; either is acceptable to the Department. Plugs are inexpensive but must be fitted to the individual. In addition, plugs, and any other type of protector inserted into the ear, must be issued by a trained person under the direction of a physician or by the physician himself. Frequent checks must be made to see that the plugs are being properly inserted.

Ear muffs, though relatively expensive, may be issued by any designated person in the plant, as the only fitting required is adjustment of the head band. This makes it very easy for the supervisor to check on proper use of the muffs. Long hair and spectacle or goggle temples will interfere with the seal made by the cushioned edges of the muffs and will correspondingly reduce the actual attenuation, as stated by the manufacturer.

Regardless of the type of ear protector decided upon, its attenuation, as stated by the manufacturer, must be sufficient to reduce the noise level in the worker's ear to the level and for the duration prescribed in Table I. The manufacturer's stated values are determined under ideal conditions, and, therefore, as a precaution, it is wise to assume that the attenuation actually attained in use in the shop will be at least 5 dB less than the stated value. Only those ear protectors which have been tested in accordance with ANSI standard Z24.22-1957, "Method for Measurement of the Real-Ear Attenuation of Ear Protectors at Threshold," are acceptable to the Department.

The Department strongly recommends that any employee who is exposed to high sound levels and requests ear protection be provided with it, even if the duration of exposure is within the limits prescribed by Table I.

Hearing Conservation Program

Sections 50-204.10 and 1910.95 conclude:

> "In all cases where the sound levels exceed the values shown herein, a continuing, effective hearing conservation program shall be administered."

Therefore, where the sound level in a working area has not been reduced to 90 dBA or below by engineering means, and reliance must be placed on administrative controls to limit duration of exposure, or on ear protection to reduce the sound level actually reaching the ear, a hearing conservation program is required. The program will be applied to all those employees whose work brings them either steadily or infrequently into areas in which sound levels exceed 90 dBA.

Definitions

"Continuing" means that the program will be in effect and in use as long as noise levels above 90 dBA occur in the plant.

"Effective" means that exposed employees will not suffer continuing deterioration of hearing acuity because of their exposure, but that incipient loss of hearing will be detected and necessary steps taken to prevent further deterioration before serious hearing loss has occurred.

In a broad sense, "hearing conservation" covers the entire range of actions required by sections 50-204.10 and 1910.95. As used here, however, it refers to audiometry--periodic checks on the hearing ability of individual employees; and noise surveys--periodic checks of the noise level in the areas in which employees are working.

Audiometry

Audiometric tests will be made of all individuals working regularly or infrequently in areas in which the noise level is above 90 dBA. The purpose of these tests is to assure that administrative controls in use or ear protection devices provided are being adhered to or properly used and are effective in preventing loss of hearing from the noise levels encountered.

Audiometric tests may be made as frequently as specified by the plant's regular or consulting physician, but only under very special conditions shall they be made less than once a year.

The tests may be made in a doctor's office or elsewhere outside the plant, providing the test facilities, techniques, and records are equal to or exceed the minimum requirements described below.

1. Test Facilities and Procedures

   The test booth or room shall meet criteria of ANSI standard S3.1-1960 (or latest), "Standard for Background Noise in Audiometric Rooms" for testing to a minimum level of 10 dB on the ISO 1964 audiometric scale.

   The booth or room may be either prefabricated or locally built. Doors, gaskets, and other parts of the room or booth which may deteriorate, warp, or crack shall be carefully inspected periodically and necessary repairs or replacements made at once to ensure that successive audiometric tests of each individual are directly comparable and will give a true evaluation of the individual's hearing ability.

The operator of the audiometer should be positioned outside the room or booth but able to see the interior through a window. The person being tested must face away from the operator and the audiometer to ensure that all his responses are based on sound signals alone.

The test shall consist of an air conduction octave band analysis, as described in ANSI standard S3.1, and shall include, at least, 500, 1,000, 2,000, and 4,000 Hz.

The audiometric tests shall be made by a person trained and skilled in audiometric testing.

2. Audiometers

The audiometer used to make these tests shall meet the specifications for limited range, pure tone audiometers in ANSI standard S3.6-1969, "Specifications for Audiometers."

The audiometer shall have a certificate of calibration before it is placed in use, and shall be recalibrated each year thereafter. This calibration shall check both frequency and intensity at each setting, rise time and overshoot, and electrical and mechanical integrity. A current certificate attesting to such calibration shall be readily available for inspection by the Department of Labor.

On the audiometer shall be a statement indicating whether it is calibrated to ASA 1951 values or to the current American National Standard, which is identical to the ISO 1964 standard.

The audiometer shall be subjected to a biological check, preferably once a week but at least once a month, or before each use of the instrument if it is used less than once a month. The check shall be made by testing a person with a known and stable audiometric curve. The monthly check should include movement and bending of cord, wire, and lead, knob turning, switch actuating, and button pushing to ensure that there are no sounds other than the test tones. A log of these checks shall be maintained and be available for inspection.

3. Records

In addition to the certificates and logs referred to in 2 above, a record of each audiogram made on each individual tested shall be available for inspection. Records of audiometric tests shall indicate whether readings are based on ASA 1951 or on American National Standard (ISO 1964). The complete records on each employee required to be tested shall be retained for 1 year following termination of employment or transfer to an area in which noise levels above 90 dBA do not exist.

The records will be examined for evidence of any deterioration of hearing acuity and of action taken to prevent further deterioration in those employees found to suffer some loss of acuity. Conclusions as to effectiveness of control measures taken will be based on examination of a significant number of audiograms and not upon the basis of one or two cases.

4. Audiometric Tests Outside of Plant

If audiometric tests are done outside the plant, the Department of Labor representative will also inspect the facilities and test records, as noted above, and the same standards will apply.

Plant management will make arrangements for such inspection with the person conducting the audiometric tests and may accompany the representative in his inspection and review of records.

Noise Surveys

A noise survey of each area in the plant in which sound levels exceed 90 dBA shall be made at least once each year to ensure that sound levels have not increased above those originally existing. The survey may also establish that noise levels in some areas have been reduced to levels below 90 dBA and thereby justify discontinuing application of requirements for administrative controls, ear protection, and audiometric tests of individuals in such areas.

A noise survey of an area is recommended whenever a change is made in either equipment or type of operations so that significant changes in noise level will be acted upon immediately.

Tests of noise levels will be made with a sound level meter on the A-scale, slow response. The use of octave band analyzers or impact meters for control or other purposes shall be in addition to, not in place of, tests made with the sound level meter.

The sound level meter used will be one meeting specifications in ANSI standard S1.4-1961, "General Purpose Sound Level Meters."

Records will be made of such surveys showing: the instrument used; date, time, and location of such tests; machinery or equipment generating the noise; and name of person making the test.

Test records shall be kept readily available for inspection for 1 year or until a subsequent survey is made, if done more frequently.

The noise survey will be made by an insurance carrier, a consultant, a representative of a State health or labor department, or by a qualified individual designated by the company.

Compliance Plan

Whenever a noise survey shows noise levels in excess of those listed in Table I, necessary steps to reduce the noise exposure to or below those levels shall be ascertained and a detailed plan, with completion dates for individual steps, shall be prepared.

Following the original survey which shows existence of overexposures, the steps in a typical compliance plan might include the following, not necessarily in this order and some usually going on simultaneously:

1. A detailed survey of sound levels and sound spectra to determine the sources of excessive sound levels.

2. Initiation of engineering studies to determine methods for reducing sound levels at their sources.

3. Planning and initiation of feasible administrative controls, such as modifying production schedules to divide noisy jobs among enough people to bring each below the permissible limit or spreading part-time noisy operations.

4. Initial audiograms for personnel excessively exposed.

5. Installation of a personal protective equipment program.

6. Followup audiograms at appropriate intervals to assess effectiveness of the personal protective equipment program and administrative controls.

7. Installation of engineering controls, or process changes to reduce noises at their source.

8. Repeated noise surveys to measure effectiveness of the engineering changes.

When the compliance plan involves long term engineering projects (for example, 1 or 2 years) it may be revised from time to time as conditions change. The orderly completion, on schedule, of the various phases of the compliance plan, together with other components of the hearing conservation program, will be considered compliance with the regulation.

Applicable ANSI standards are available from the American National Standards Institute, 1430 Broadway, New York, N.Y. 10018

S1.4-1961 -- Specification for General Purpose Sound Level Meters--$2.75
S1.6-1967 -- Preferred Frequencies and Band Numbers for Acoustical Measurements--$2.75
S3.1-1960 -- Criteria for Background Noise in Audiometer Rooms--$2.75
S3.6-1969 -- Specification for Audiometers--$4.50

June 8, 1971

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922-400

OSHA ALPHABETICAL INDEX

FOR REQUIRED SIGNS, MARKINGS AND SIGNALS

FROM FEDERAL REGISTER

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PART 1910 - OCCUPATIONAL SAFETY AND HEALTH STANDARDS

OSHA ALPHABETICAL INDEX	SECONDARY SUBJECT	SECTION	1972 PAGE	1974 PAGE	REQUIREMENT SIGN	MARKING	SIGNAL
Accident Prevention, Specification for Signs & Tags	Specifications for Design, Application and Use.	1910.145(complete a thru f)	22239	23678	X		
Ammonia, Anhydrous, Storage & Handling	Marking non-refrigerated container	1910.111(b3i,iia thru j)	22224	23663		X	
	Marking refrigerated containers	1910.111(b4i thru viii)	22225	23664		X	
	Tank car unloading	1910.111(b13,iii)	22227	23666	X		
	Systems mounted on farm vehicles	1910.111(q5)	22230	23669		X	
Asbestos	Caution signs & labels	1910.93a(g 1&2)	22143	23544	X		
Bakery Equipment	Walkways near ceiling	1010.263(d1,iii,d)	22322	23761	X		
Color Code, Safety for Marking physical hazards	Color identification	1910.144(complete a thru b)	22238	23678		X	
Cranes, Overhead & Gantry	Rated Load Marking	1910.179(b5)	22259	23698		X	
	Warning Device	1910.179(i)	22262	23701			X
Derricks	Load Ratings	1910.181(c1&2)	22268	23707		X	
	Warning or out of order	1910.181(f2d)	22269	23708	X		
Dip Tanks Containing Flammable or Combustible Liquids	"No Smoking" - In vacinity of Dip Tanks	1910.108(f4)	22192	23631	X		
Egress, Means of, General	Alarm & Fire Protection System	1910.37(n1&2)	22132	23533			X
	Exit Marking	1910.37(q5)	22132	23533	X		
	Illumination of Exit Sign	1910.37(q6)	22132	23533	X		
	Illumination of Exit Sign	1910.37(q7)	22132	23533	X		
	Exit - Letter Size	1910.37(q8)	22132	23533	X		
Explosives & Blasting Agents	Signs for Magazines	1910.109(c2iii)	22195	23634	X		
	Class II Magazines-Painting & Signs	1910.109(c4iv)	22196	23635	X		
	Transportation Vehicles	1910.109(d2iia,b,c,d,e)	22197	23636	X	X	
	Warning-Use of Mobile Radio Transmitters	1910.109(elviib)	22198	23637	X		
	Warning Before A Blast	1910.109(e5)	22198	23637			X
	Marking for Railway Cars	1910.109(f3)	22198	23637	X	X	
	Vehicles Transporting-Blasting Agents	1910.109(g6viii)	22201	23640	X		
	Vehicles Carrying Watergel	1910.109(h4iia)	22202	23641	X		
	Ammonium Nitrate Storage	1910.109(I4iic)	22202	23641	X		
Fire Protection							
Extinguishing Systems, Fixed Dry Chemical	Alarms & Indicators	1910.160(b1)	22247	23687			
Fire Extinguishers, Portable	Marking for Intended Use	1910.157(a4)	22243	23683		X	
Sprinkler Systems, Automatic	Fire Dept. Hose Connections	1910.159(b4v)	22246	23686	X		
	Sprinkler Alarms	1910.159(c1i)	22246	23686			
Standpipe & Hose Systems	Hose Outlet Identification	1910.158(b7)	22246	23686	X		
	Hose Connections	1910.158(c4x)	22246	23686	X		
Flammable & Combustible Liquids	Flammable Aerosol	1910.106(a13)	22169	23608		X	
	Post Flood Emergency Instructions	1910.106(b5vivl,2&3)	22176	23615	X		
	"No Smoking" Sign Locations, Bulk Plants	1910.106(f6)	22182	23621	X		
	No Smoking Conditions, Service Stations	1910.106(g8)	22185	23624	X		
Floor Loading Protection	Floor Loading Markings	1910.22(d1)	22108	23508		X	
Hydrogen	Container Markings	1910.103(b1ic)	22164	23603		X	
	Storage Location Marking	1910.103(b1v)	22164	23603	X	X	
	Container Marking	1910.103(c1iii)	22165	23604		X	
	Signs for Storage Site	1910.103(e2ie)	22166	23605	X		
Ladders, Portable, Metal	Defective Ladders	1910.26(c2vii)	22118	23518		X	
Ladders, Portable, Wood	Defective Ladders	1910.25(d1x)	22116	23516		X	
Liquified Petroleum Gases	Container Markings	1910.110(b5i,ii&iii)	22204	23643		X	
	Hose Markings	1910.110(b9ii)	22206	23645		X	
	Container Safety Relief Valve	1910.110(b10x)	22207	23646		X	
	Tank Car Sign	1910.110(b15ii)	22210	23649	X		
	Liquid-Level Gages	1910.110(b19vi)	22212	23651		X	
	Marking of Containers	1910.110(c2i,ii,iii&iv)	22212	23651		X	
	L.P.Gas Systems on Commercial Vehicles-Containers	1910.110(g2i,ii&iii)	22220	23659		X	
	L.P. Gas Systems on Commercial Vehicles - Containers	1910.110(g12i thru vii a,b,c,d)	22221	23660	X	X	
	No smoking L.P. Gas Service Stations	1910.110(h12)	22223	23661	X		

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OSHA ALPHABETICAL INDEX	SECONDARY SUBJECT	SECTION	1972 PAGE	1974 PAGE	REQUIREMENT SIGN	MARKING	SIGNAL
Logging, (Pulpwood)	Signals for Equipment Operator	1910.266(c6xiv)	22339	23679			X
	Equipment Operator Signals	1910.266(c6xvi)	22339	23679			X
	Pulpwood Harvesting	1910.266(e1i1&iii)	22340	23680			X
Manlifts	Instruction & Warning Signs	1910.68(C7i,ii&iii)	22139	23540	X		X
Mills & Calenders in the Rubber & Plastics Industries	Accident Alarm	1910.216(g)	22285	23723			X
Oxygen	Bulk Oxygen Storage Location	1910.104(b8viii)	22169	23608	X		
Pesticides	Warning Signs	1910.267a(a3i,ii,iii&iv)	*	23780	X		

*Emergency Temporary Standard Effective June 18, 1973.
See Federal Register Vol. 38, No. 83, May 1, 1973, Page 10716

Platforms, Powered for Exterior Building Maintenance	Mfg. Load Rating Plate	1910.66(c2vb7)	22134	23535	X		
Power Presses, Mechnaical	Tonnage, Stroke & Weight Designation	1910.217(d6i,ii&iii)	22287	23726	X	X	
Pulp, Paper & Paperboard Mills	Crane Operation	1910.261(c8iii thru vii)	22312	23751			X
	Traffic Warning Signs or Signals	1910.261(c9i&ii)	22312	23751	X	X	X
	Conveyors Crossing Walks or Roads	1910.261(c16)	22313	23752	X		
	Persons Enter Rag Cookers	1910.261(f6i)	22314	23753			X
	Alarm for Failure of Elevators	1910.261(g11,iii)	22314	23753			X
	Signal While Digesters Are Being Blown	1910.261(g13,iii)	22315	23754			X
	Locks for Digester Control Lines	1910.261(g15,i)	22315	23754			X
	Locks for Digester Blow Lines	1910.261(g19,iii)	22315	23754			X
	Locks for Piping Leading To Tanks	1910.261(g21)	22315	23754			X
	Chlorine, Caustic & Acid Lines	1910.261(h3vi)	22316	23755		X	
	Locks For Beater Control Devices	1910.261(J4iii)	22316	23755			X
	Emergency Stop Devices for Beaters	1910.261(J4v)	22316	23755			X
	Locks for Pulper Controls & Piping	1910.261(J5iii)	22316	23755			X
	Locks for Stock Chest Controls	1910.261(J6)	22316	23755			X
	Emergency Stops for Paper Machine	1910.261(K1)	22316	23755			X
	Alarm for Broke Hole	1910.261(K13iii)	22317	23756			X
	Emergency Stops for Paper Machine	1910.261(L2)	22317	23756			X
	Signals During Switching Operations	1910.261(m5iii)	22318	23757			X
Radiation							
Ionizing	Caution Signs, Labels & Signals	1910.96(e1,2&3)	22159	23598	X		X
	Airborne Radioactivity Area	1910.96(e4ii)	22159	23598	X		
	Area for Radioactivity Use or Storage	1910.96(e5i&ii)	22159	23598	X		
	Labels For Containers	1910.96(e6i,ii,iii&iv)	22160	23599		X	
	Immediate Evacuation Warning Signal	1910.96(f1i thru vi)	22160	23599			X
	Instruction Of Personell & Posting	1910.96(i3)	22161	23600	X		
Non-Ionizing	Warning Symbol Electro Magnetic Radiation	1910.97(a3i,ii&iii)	22162	23601	X		
Respiratory Protection	Alarms for Air Quality	1910.134(d2ii)	22232	23671			X
	Use of Respirators	1910.134(e2)	22232	23671		X	
	Identification of Gas Mask Canisters	1910.134(g1,2,3,4,5,6)	22233	23672		X	
Sanitation	Non-Potable Water	1910.141(b2)	*	23674		X	
Sawmills	Areas Beneath Floor Openings	1910.265(c3ii)	22332	23772		X	
	Exit Identification	1910.265(c6ii)	22333	23773	X	X	
	Doorway Barriers & Warning Signs	1910.265(c6v)	22333	23773	X		
	Hazard Marking	1910.265(c11)	22333	23773		X	
	Electrical Equipment Identification	1910.265(c12iii)	22333	23773		X	
	Vertical Clearance	1910.265(c19ii)	22333	23773	X		X
	Defective Wire Rope	1910.265(c24vb)	22334	23774		X	
	Preventing Entry to Hazardous Area	1910.265(c26xi)	22335	23775	X		X
	Vehicles-Warning Signals & Spark Arrestors	1910.265(c30ii)	22335	23775			X
	Traffic Control-Hazardous Crossings	1910.265(c31i)	22335	23775	X	X	X
	Audible Device For All Unloading Devices	1910.265(d11ih)	22336	23776			X
	Signs for Log Unloading & Storage Area	1910.265(d2id)	22336	23776	X		
	Area Around Barkers	1910.265(d4iii)	22337	23777	X		
	Barriers & Signs for Carriage Area	1910.265(e1v)	22337	23777	X		
	Warnings for Band Head Saw	1910.265(e2ic)	22337	23777	X	X	
	Bandsaw Wheels-Maximum Speed	1910.265(e2iia)	22337	23777		X	
	Circular Head Saws-Maximum Speed	1910.265(e2iiia)	22337	23777		X	
Spray Finishing Using Flammable and Combustible Material	"No Smoking" Signs	1910.107(g7)	22189	23628	X		
	Warning Signs for Dryers	1910.107(J4v)	22191	23630	X		
	"No Smoking: signs in Garages	1910.107(K4iii)	22191	23630	X		
	Electrical Grounding in Garages	1910.107(K7iii)	22191	23630	X		
	"No Smoking" - Organic Peroxide Storage Area	1910.107(M2)	22191	23630	X		

OSHA ALPHABETICAL INDEX	SECONDARY SUBJECT	SECTION	1972 PAGE	1974 PAGE	REQUIREMENT SIGN	MARKING	SIGNAL
Storage (Indoor) (General)	Alarm System for Storage Facilities	1910.177(b4)	22254	*			X
	"No Smoking" Signs	1910.177(g)	22254	*	X		
Textiles	Maximum Speed for Extractor	1910.262(Y1iv)	22321	23760	X		
Tools, Hand & Portable Powered	Power Lawnmowers Signs	1910.243(p1v)	22297	23736	X		
Guarding of Portable	Power Lawnmowers Signs	1910.243(e2v)	22297	23736	X	X	
Tools & Equipment, Portable, Other	Jacks - Out of Order	1910.244(a2viii)	22298	23737		X	
Trucks (Powered Industrial)	Approval From Testing Laboratory	1910.178(a3)	22254	23694		X	
Welding, Cutting & Brazing	Personnel In Charge of Equipment	1910.252(a1iv)	22299	23738	X		
	Gas Cylinder Marking	1910.252(a2ib)	22299	23738		X	
	Gas Storage Room Signs	1910.252(a2iiia)	22299	23738	X		
	Cylinders with Leaking Fuse Plugs	1910.252(a2vc7)	22300	23739	X	X	
	Signs at Each Manifold	1910.252(a3iiie)	22300	23739	X		
	Piping-Systems Marking	1910.252(a4ivb&c)	22301	23740		X	
	Gages On Regulators Marking	1910.252(a5vic)	22302	23741		X	
	Acetylene Generators	1910.252(a6i&ii)	22302	23741		X	
	Posting Operating Instructions	1910.252(a6viia1&2)	22304	23743	X		
	Calcium Carbide Packages	1910.252(a7ib)	22304	23743		X	
	Fire Alarm	1910.252(d1iiib)	22307	23745			X
	Hot Metal Warning Sign	1910.252(e4vii)	22309	23747	X		
	Metals & Materials Container Marking	1910.252(f1va,b,c)	22309	23747	X	X	
Woodworking Machinery Requirements	Radial Saw Rotation	1910.213(h5)	22275	23753	X	X	

See also 1910.93 Section-not included above.

*1910.177 Indoor General Storage rescinded.

Section 1910.	1972 Page	1974 Page	Section title	Secondary subject	Individual shall be: Instructed	Trained	Qualified	Authorized	Competent	Licensed	Responsible	Designated	Designated agent	Equipment representative	Follow manufacturing instruction	Thoroughly informed	Familiar with traffic regulation	Familiar with state laws	Appointed
28f17	22125	23526	Safety Requirements for Scaffolding	Install Mason's Suspension Scaffold					X			X							
28h10	22126	23527	Safety Requirements for Scaffolding	Install Stone's Suspension Scaffold					X			X							
29b5	22129	23530	Manually Propelled Mobile Ladder Stands and Scaffolds	Erect Welded Frame Scaffold			X						X		X				
29c7	22129	23530	Manually Propelled Mobile Ladder Stands and Scaffolds	Erect Welded Folding Scaffold			X						X		X				
29d3	22129	23530	Manually Propelled Mobile Ladder Stands and Scaffolds	Erect Tube and Coupler Scaffold			X						X		X				
68e1,2,&3	22139	23540	Manlifts	Periodic Inspection By					X			X							
94a5iv	22145	23584	Ventilation	Establish Respiratory Protection Program							X								
94d9i	22156	23595	Ventilation	Open Surface Tank Workers	X														
96i2	22161	23600	Ionizing Radiation	Workers in Radiation Area	X														
103c4i&ii	22167	23606	Hydrogen	Attendant for Liquified Hydrogen System			X												
103c5i	22168	23607	Hydrogen	Inspect Liquified Hydrogen System			X							X					
1[redacted]i	22169	23608	Oxygen	Inspect Bulk Oxygen System			X							X					
106b5viV3	22176	23615	Flammable and Combustible Liquids	Tank Storage Station Operators												X			
106e8	22180	23619	Flammable and Combustible Liquids	Industrial Plants Equipment Repairs							X								
106h7iia&b	22186	23625	Flammable and Combustible Liquids	Repair in Processing Area				X			X								
109c5viii	22196	23635	Explosives and Blasting Agents	In Charge of Magazines					X		X								
109d3i	22197	23636	Explosives and Blasting Agents	Vehicle Driver													X	X	
109d3iv	22197	23636	Explosives and Blasting Agents	Persons Conducting Blasting Operations				X											
109g3iiia	22199	23638	Explosives and Blasting Agents	Delivery and Mixing Vehicle Operator		X													
109g3ivc	22199	23638	Explosives and Blasting Agents	Evaluate All Systems			X												
109g6ii	22201	23640	Explosives and Blasting Agents	Transporting Blasting Agents						X							X	X	
110b16	22210	23649	Storage and Handling of Liquified Petroleum Gases	Installation, Operation and Maintenance Work		X													
134b3	22231	23670	Respiratory Protection	User of Respirators	X	X													
134e2	22232	23671	Respiratory Protection	Procedure for Using Respirators	X														
134e4	22232	23671	Respiratory Protection	Respirator Inspection			X												
134e5	22232	23671	Respiratory Protection	Use of Respirator	X	X			X										
134f4	22233	23672	Respiratory Protection	Respirator Repair		X													
145c1ii	22239	23678	Specifications for Accident Prevention Signs and Tags	Employees and Danger Signs	X														
145c2ii	22239	23678	Specifications for Accident Prevention Signs and Tags	Employees and Caution Signs	X														
1[redacted]	22241	23680	Specifications for Accident Prevention Signs and Tags	Employees and Accident Prevention Tags	X														

Individual shall be

Section 1910.	1972 Page	1974 Page	Section title	Secondary subject	Instructed	Trained	Qualified	Authorized	Competent	Licensed	Responsible	Designated	Designated agent	Equipment representative	Follow manufacturing instruction	Thoroughly informed	Familiar with traffic regulation	Familiar with state laws	Appointed
151b	22242	23682	Medical Services and First Aid	First Aid		X													
160cli	22247	23687	Fixed Dry Chemical Extinguishing Systems	Annual Inspection					X										
160cliv	22247	23687	Fixed Dry Chemical Extinguishing Systems	System Inspections					X										
161a2	22247	23687	Carbon Dioxide Extinguishing Systems	Safety Requirements		X													
161bli	22247	23687	Carbon Dioxide Extinguishing Systems	Inspection and Test By					X										
161bliv	22247	23687	Carbon Dioxide Extinguishing Systems	System Inspection					X										
163c	22247	23687	Local Fire Alarm Signaling Systems	System Supervision—Maintenance, Inspections and Tests			X												
167b5i	22251	23691	Safety Relief Devices for Compressed Gas Cylinders	Service for Safety Relief Devices			X												
168b4ii	22252	23692	Safety Relief Devices for Cargo and Portable Tanks Storing Compressed Gases	Service for Safety Relief Devices			X												
178L	22257	23696	Powered Industrial Trucks	Operator Training		X		X											
178Q1	22258	23697	Powered Industrial Trucks	All Truck Repairs By				X											
180gl-2iii	22265	23704	Crawler Locomotive and Truck Cranes	Rope Inspection By				X											
180h3xii	22266	23705	Crawler Locomotive and Truck Cranes	Two or More Cranes Lift One Load—One Person	X							X							
180h3xiv	22266	23705	Crawler Locomotive and Truck Cranes	Before Traveling Loaded Crane—One Person								X							
181b3	22268	23707	Derricks	Derrick Operator								X							
181e2	22268	23707	Derricks	All Anchorages Approved By															X
181f2g	22269	23708	Derricks	Welding Repairs Approved By															X
217e3	22288	23727	Mechanical Power Presses	Maintenance and Inspecting Personnel		X			X										
217f2	22288	23727	Mechanical Power Presses	Instruction to Operators	X	X													
218a2iii	22288	23727	Forging Machines	Inspection and Maintenance Personnel		X													
218a3v	22288	23727	Forging Machines	Personnel Using Tongs	X														
218h4	22289	23728	Forging Machines	Upsetter Personnel Using Tongs	X														
243d4v	22297	23736	Guarding of Portable Powered Tools	Misfire Procedure for Explosive Actuated Fastening Tools	X														
244a2v	22298	23737	Other Portable Tools and Equipment	Manufacturers Lubricating Instructions	X														
252aliv	22299	23738	Welding, Cutting and Brazing	Personnel in Charge of Oxygen or Fuel-Gas Supply Equipment	X				X										
252bliii	22305	23744	Welding, Cutting and Brazing	Arc Welding Equipment Operators	X		X												
252b4vi	22306	23745	Welding, Cutting and Brazing	Operation and Maintenance—Arc Welding and Equipment											X				
252b4ix	22306	23745	Welding, Cutting and Brazing	Repair of Arc Welding Equipment			X												
252cliii	22306	23745	Welding, Cutting and Brazing	Resistance Welding Equipment Operator	X				X										
252c5	22307	23746	Welding, Cutting and Brazing	Resistance Welding Equipment—Job Hazard Analysis			X												
252c6	22307	23746	Welding, Cutting and Brazing	Resistance Welding Equipment—Maintenance and Inspection			X												
252d2iiib	22307	23746	Welding, Cutting and Brazing	Fire Watchers		X													

Section 1910.	1972 Page	1974 Page	Section title	Secondary subject	Individual shall be: Instructed	Trained	Qualified	Authorized	Competent	Licensed	Responsible	Designated	Designated agent	Equipment representative	Follow manufacturing instruction	Thoroughly informed	Familiar with traffic regulation	Familiar with state laws	Appointed
252d2iv	22307	23746	Welding, Cutting and Brazing	Authorization to Cut or Weld				X											
252d2xiiic	22308	23747	Welding, Cutting and Brazing	Cutters, Welders and Supervisors		X													
252f13	22310	23749	Welding, Cutting and Brazing	First Aid on Every Shift of Welding Operations		X													
261h3ii	22315	23754	Pulp, Paper and Paperboard Mills	Gas Masks for Workers Exposed to Chlorine Gas	X														
263Lgii	22328	23767	Bakery Equipment	Oven Safety Device Inspection	X														
263dlv	22331	23770	Laundry Machinery and Operations	Instruction of Employees	X														
265cl2ii	22333	23771	Sawmills	Electrical Repairs By			X	X											
265cl2vii	22333	23771	Sawmills	Overload Relays Reset By			X	X											
265c24iii	22334	23772	Sawmills	Installation, Inspection, Maintenance and Test of Ropes, Cables, Slings and Chains			X												
266c4i	22339	23778	Pulpwood Logging	Persons Work within Vocal Range of Other Workmen	X														
266c5i-xi	22339	23778	Pulpwood Logging	Chain Saw Operation and Safety	X														
266c6i&vi	22339	23778	Pulpwood Logging	Stationary and Mobile Equipment Operation, Maintenance and Safety	X														
266c6vii	22339	23778	Pulpwood Logging	Equipment Operation	X														
266c6x-xxi	22339	23778	Pulpwood Logging	Equipment Operation and Safety	X														
[illegible]7	22340	23779	Pulpwood Logging	Use of Explosives		X													
266dl	22340	23779	Pulpwood Logging	Equipment Operators Manual	X														
266eliii&v	22340	23779	Pulpwood Logging	Pulpwood Harvesting Procedure	X														
266e2i&ii	22340	23779	Pulpwood Logging	Manual Felling Procedure	X														
266e6i&viii	22340	23779	Pulpwood Logging	Skidding and Prehauling Procedure	X	X						X							
266e8i	22341	23780	Pulpwood Logging	Driver of Personnel Transports						X									
266eg	22341	23780	Pulpwood Logging	Off Highway Truck Transport Drivers	X														

See also 1910.93 Section–not included.

Mine Safety and Health

A. INTRODUCTION

The (Federal) Mine Safety and Health Act of 1977, 30 U.S.C. Section 801 *et seq.* (the Mine Act), declares that the first priority of "all in the coal or other mining industry must be the health and safety of its most precious resource, the miner." At the time of the Mine Act's enactment, there was an urgent need to provide more effective means and measures for improving the working conditions and practices in the nation's mines in order to prevent death and serious physical harm. Utilizing established precedent to accomplish this goal, many of the Mine Act's provisions were modeled upon those of the OSH Act. Many of the controversies that arise under it are therefore similar to those which arise under the OSH Act. There are also, however, several significant differences between the two statutes. The thrust of this chapter, although it will not be comprehensive, will be to provide an overview of the Mine Act and attempt to highlight those areas of differences and similarity in the Mine Act and OSH Act.

B. OVERVIEW

The (Federal) Mine Safety and Health Amendments Act, P.L. 95–164, 91 Stat. 1290, which resulted in the Mine Act, consolidated the regulation of mine safety and health under one statute. Safety and health in *coal* mines had previously been regulated by the Department of the Interior's Mining Enforcement and Safety Administration (MESA) under the Federal Coal Mine Health and Safety Act of 1969, P.L. 91–173, 83 Stat. 742, 30 U.S.C. Section 801 *et seq.* (the 1969 Coal Act). Safety and health in *metal* and *nonmetal* mines had been regulated by MESA under the Federal Metal and Nonmetallic Mine Safety Act, P.L. 89–577, 80 Stat. 772, 30 U.S.C. Section 721 *et seq.* (the 1966 Metal Act).

The Mine Act amendments: (1) substantially amended and renamed the 1969 Coal Act, the (Federal) Mine Safety and Health Act of 1977; (2) repealed the 1966 Metal Act and placed all miners under the safeguards of the Mine Act; (3) transferred enforcement responsibilities from the Interior Department to the Labor, Department as of March 9, 1978; (4) established in the Department of Labor, the Mine Safety and Health Administration (MSHA); (5) established, as an independent adjudicative body, the (Federal)

Mine Safety and Health Review Commission (MSHRC or the Mine Commission); (6) provided new procedures to expedite the rule-making process; (7) strengthened the mechanisms for enforcing compliance; (8) gave increased emphasis to protecting miners' health; (9) allowed for greater involvement of miners in processes affecting their health and safety; (10) provided procedures for assessing and collecting (precontest) civil penalties resulting from violations of mine health and safety regulations; and (11) provided for broad mandatory training for miners.

C. COVERAGE

Each coal or other mine, the products of which enter commerce, or the operations or products of which affect commerce, and each operator of such mine, and every miner in such mine is subject to the provisions of the Mine Act. Section 4 of the Mine Act. A mine is defined in Section 3(h)(1) as:

> (A) an area of land from which minerals are extracted in nonliquid form or, if in liquid form, are extracted with workers underground, (B) private ways and roads appurtenant to such area, and (C) lands, excavations, underground passageways, shafts, slopes, tunnels and workings, structures, facilities, equipment, machines, tools, or other property including impoundments, retention dams, and tailings ponds, on the surface or underground, used in, or to be used in, or resulting from, the work of extracting such minerals from their natural deposits in nonliquid form, or if in liquid form, with workers underground, or used in, or to be used in, the milling of such minerals, or the work of preparing coal or other minerals, and includes custom coal preparation facilities.

Marshall v. Wallach Concrete Products, Inc.,—F. Supp. —, 1 MSHC 2337 (D. Mex. 1980), *appeal filed* No. 80–1334 (10th Cir. March 26, 1980)—a sand and gravel operation is a mine within the meaning of Section 3(h)(1); *Marshall v. Kniseley Coal Company*, 487 F. Supp. 1376, 1 MSHC 2353 (W.D. Pa. 1980)—a family-owned, family-operated mine is covered by the Act and subject to safety inspections.

"Operator" is defined in Section 3(d) of the Mine Act to mean any owner, lessee, or other person who operates, controls, or supervises a mine *or* any independent contractor performing services or construction at such mine. A miner means any individual working in a coal or other mine. Section 3(g). *Marshall v. William R. Kraynak*, 604 F.2d 231, 1 MSHC 2131 (3d Cir. 1979)—four brothers who own and operate a mine and are its only miners are both *operators and miners* within the meaning of the Mine Act and must comply with its mandatory standards; *Old Ben Coal Company*, 1 MSHC 2177 (1979), *aff'd* — F.2d —, 2 MSHC 1065 (2d Cir. 1980)—an owner or operator of a mine can be held responsible for violations committed by an independent contractor engaged by the owner to perform work on the owner's premises; *Cowin & Company, Inc.*, 1 MSHC 2010 (1979)—an independent construction contractor who performed work on the mine premises under a contract with the mine owner is considered to be an operator within the meaning of the Mine Act.

D. STANDARDS

MSHA administers the provisions of the Mine Act so as to achieve a safe and healthful environment in the Nation's coal and other mining operations. It oversees the development and enforcement of safety and health standards and programs throughout the mining industry in order to achieve this environment. Enforcement of these standards is assured through regular and special inspection efforts at the Nation's 22,000 coal, metal, and nonmetal mining establishments. Civil monetary penalties may be assessed for any violations of the Mine Act's standards.

Standards which were in force under Title 30 of the Code of Federal Regulations on the date of the Mine Act's enactment remained in effect and were not immediately affected by the new Act, although some of these subsequently have been or in the future may be revoked or modified. These existing standards were both mandatory and advisory. An advisory committee was designated to review all of the advisory standards and recommend which, if any, should be made mandatory.

In addition to *permanent* mandatory standards, discussed below, the Mine Act authorizes the issuance of *emergency temporary* mandatory standards without going through the formal rule-making process in situations that pose grave dangers to miners. Section 101(b)(1). A nine-month limit is imposed on such standards in order to insure due process protection to mine operators.

Section 101(a) of the Act authorizes the Secretary of Labor to develop, promulgate, and revise "improved *permanent* mandatory health or safety standards." Whenever the Secretary of Labor, upon the basis of information submitted to him by an interested person, a representative of any organization of employers or employees, a nationally recognized standards-producing organization, NIOSH, or a state or political subdivision, or on the basis of information developed or otherwise available to him, determines that mandatory standards should be promulgated, the Secretary may request the recommendation of an advisory committee appointed under Section 102(c). Reliance on an advisory committee is discretionary, but if it is utilized certain procedures must be followed. When the Secretary receives recommendations from NIOSH with appropriate criteria that a rule be promulgated, he *must* within sixty days after receipt refer the recommendation to the advisory committee or publish such as a proposed rule or publish his reasons for not doing so. If the standard is new in effect or application, an advisory committee must also be utilized.

Whether or not an advisory committee is utilized, a proposed rule promulgating, revoking, or modifying a permanent mandatory standard must be published in the Federal Register (within sixty days of the advisory committee's recommendation if one is received). Section 101(a)(2). Interested persons are then afforded a thirty-day comment period for filing comments and objections and requesting a hearing. Thereafter a hearing notice will be published and a hearing held within sixty days. Within ninety days after certification of the record of the hearing (or within ninety days after the period for filing objections has expired) the Secretary shall promulgate, modify, or revoke the standard and publish the same in the Federal Register or

publish reasons for not doing so. Section 101(a)(6) and (7). Mandatory standards shall be effective upon publication, unless another date is specified.

When promulgated, safety and health standards provide a point of reference for compliance efforts of employees and employers, a legal basis for subsequent enforcement actions, and a benchmark for voluntary compliance on the part of mine operators. A copy of every proposed mandatory standard published in the Federal Register is sent to all miners and miners' representatives and must be posted. Section 101(e).

Anyone claiming to be adversely affected by the issuance of a mandatory standard has sixty days after the standard is issued to petition the appropriate U.S. court of appeals for relief. Section 101(d) of the Mine Act. This section is intended to be the *sole means* of challenging the validity of a health or safety standard. The standard will remain in effect during litigation unless the court rules otherwise and grants a stay. In *National Industrial Sand Association v. Marshall*, 601 F.2d 289, 1 MSHC 2033 (3d Cir. 1979), the court stated that in considering the scope of statutory authority of the Secretary of Labor to issue standards under the Mine Act, a reviewing court will defer to the Secretary's interpretation of the scope of such authority so long as the interpretation is reasonable. The court further stated that under Section 10(e) of the Administrative Procedure Act, challenged regulations are to be reviewed to insure that they are not *arbitrary, capricious, and an abuse of discretion* or otherwise not in accordance with the law. In sum, MSHA, if its rule-making is to be sustained, must demonstrate that it has considered the relevant factors brought to its attention by interested parties during the course of rule-making and that it has made a reasoned choice among the various alternatives presented.

While some of the standards-setting provisions of the Mine Act are similar to those of the OSH Act, there are many important differences. The standards-setting provisions, for example, appear more favorable to the Department of Labor than the cognate OSHA provisions. For example, Section 6(b)(5) of the OSH Act requires the Secretary to "set the [toxic material] standard which most adequately assures, to the extent feasible, . . . that no employee will suffer material impairment of health," and also makes, in its next sentence, "the feasibility of the standards" a consideration in standard-setting. The comparable provision in the Mine Act, Section 101 (a)(6)(A), omits the phrase "to the extent feasible," but retains "the feasibility of the standards" as a criterion. The definition of "mandatory health or safety standard" in Section 3(1) of the Mine Act does not use the phrase "reasonably necessary or appropriate" found in Section 3(8) of the OSH Act, that was so important in the benzene decision, *Industrial Union Department, AFL-CIO v. American Petroleum Institute*, 448 U.S. —, 8 OSHC 1586 (1980). In addition, as stated previously, the pre-enforcement challenge permitted by Section 101(d) of the Mine Act is exclusive. Compare *Atlantic Gulf & Stevedores v. OSHRC*, 534 F.2d 541, 4 OSHC 1061 (3d Cir. 1976). See also *Southern Clay, Inc. v. Department of Labor*, 612 F.2d 574, 1 MSHC 2225 (3d Cir. 1979)—the court lacks jurisdiction to consider an operator's petition pursuant to Section 101(d) of the Mine Act for review of rules relative to the training of miners, since the contention that the rules cannot be applied to the operator's milling operations is cognizable in the enforcement proceeding but not in a Section 101(d) petition for

review by the court of appeals; *Oracle Ridge Mining Partners*, 1 MSHC 2401 (1980).

The Secretary, after petition by an operator or miner representative, may modify the application of any mandatory safety—but not health—standard to a given mine, if he finds that another method will protect miners as well as the standard, or if application of a standard will make a mine more hazardous Section 101(c) of the Act. This is analogous to OSHA's variance procedure.

E. ROLE OF NIOSH

NIOSH conducts research, develops criteria for mine safety and health standards, and provides technical services to government, labor, and industry, including training in the recognition, avoidance, and prevention of unsafe or unhealthful working conditions and the proper use of adequate safety and health equipment. The most important product of NIOSH's research efforts in the mine safety and health area is the publication of criteria documents which, for a given hazard, contain recommended environmental exposure limits, medical examination requirements, labeling and warning, environmental monitoring methods, engineering controls, workplace practices, personal protective equipment and clothing, and recordkeeping requirements. Criteria documents may have an impact on workplace conditions even before being promulgated as standards, for labor and industry use them as guides for control of hazards, even though the documents do not have the force of law. In addition, NIOSH's research efforts result in a publication of current intelligent bulletins on previously recognized health hazards, health and safety guides for specific industries on avoidance of workplace hazards, and technical guides for industry regarding environmental monitoring and control of technology for workplace hazards. NIOSH's various functions are designed to reduce the high economic and social costs of occupational illnesses and injuries through the prevention and control of occupational diseases and hazards.

NIOSH and MSHA entered into a memorandum of understanding dated May 4, 1978, setting forth the agreement between the agencies for the consultation, coordination, and cooperation in effectively and efficiently carrying out their respective safety and health functions under the Mine Act. Topics covered in the memorandum of understanding include agreements relative to the identification of toxic materials and agents found in mines, development of mine health criteria and mine health standards, devices for the measurement, testing and certification of personal protective equipment and measurement and monitoring equipment, and an agreement to respond to health-hazard evaluation requests under the authority of Section 501 of the Mine Act. NIOSH is also required to coordinate its activities with MSHA in each mine for which a NIOSH health-hazard evaluation has been requested. NIOSH has also agreed to provide technical assistance and supportive field investigations to MSHA and will provide assistance in performing training and education responsibilities under the Mine Act. NIOSH, of course, was also required within eighteen months after the effective date of the Mine Act

to determine whether substances are potentially toxic at the concentrations used or found in mines and make recommendations to the Secretary of Labor arising from these findings.

F. INSPECTIONS, INVESTIGATIONS, AND RECORDKEEPING

Inspections are required to be conducted for the purposes of: (1) obtaining and utilizing information relating to safety and health conditions and causes of accidents, diseases, and physical impairments originating in mines; (2) gathering information for mandatory health and safety standards; (3) determining whether an imminent danger exists; and (4) determining whether there is compliance with MSHA standards. Section 103(a) of the Act. Provisions for the issuance of subpoenas for the purpose of making investigations of accidents or other occurrences are also provided. Advance notice is prohibited. The Secretary of Labor is required to make inspections of underground mines at least four times a year and of surface mines at least two times a year. Moreover, inspection requirements are tightened in order to deal with especially gassy mines. Spot inspections must be made at irregular intervals every five days, every ten days, and every fifteen days, at mines found to liberate more than one million cubic feet, more than five hundred thousand cubic feet, and more than two hundred thousand cubic feet of methane or other explosive gas, respectively, over a twenty-four hour period. Section 103(i) of the Act.

Section 103(f) of the Act accords to representatives of miners both the right to accompany the inspector during an inspection and a limited right to walkaround pay. See generally *Magma Copper Corp.*, 1 MSHC 2227 (1979), *pet. for rev. filed*, No. 79–7535 (9th Cir. Oct. 15, 1979); *The Helen Mining Co.*, 1 MSHC 2193 (1979), *pets. for rev. filed*, Nos. 79–2518, 79–2537 (D.C. Cir. Dec. 19, 21, 1979)—walkaround pay right does not apply to "spot" inspections; *Kentland-Elkhorn Coal Corp.*, 1 MSHC 2230 (1979), *pets. for rev. filed*, Nos. 79–2503, 79–2536 (D.C. Cir. Dec. 17, 21, 1979)—walkaround pay limited to regular, complete inspections; *Island Creek Coal Company*, 1 MSHC 2521 (1980)—walkaround pay provision only applies to annual regular inspections and not spot inspections.

Section 103(a) of the Mine Act states that the Secretary of Labor "shall have a right of entry to, upon, or through any coal or other mine." The legislative history of the Mine Act indicates that the Congress intended to authorize such searches without warrants. S. Rep. No. 95–181, 95th Cong., 1st Sess. 27 (1977) ("absolute right of entry without need to obtain a warrant"), reprinted in 1977 U.S. Code Cong. & Ad. News 3401, 3427.

INSPECTIONS, TESTS & RECORD KEEPING REQUIREMENTS
FROM FEDERAL REGISTER
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*N.S. - Not Specified

OSHA ALPHABETICAL INDEX	SECONDARY SUBJECT	SECTION	1972 PAGE	1974 PAGE	REQUIREMENT: INSP.	TEST	MISCELLANEOUS	RECORD KEEPING*	FREQUENCY
Abrasive Wheel Machinery	Mounting	1910.215(d1)	22280	23719	X			N.S.	Immediately Before Mounting.
Acetylene	Generators & Filling Cylinders	1910.102(c)	22164	23603		X		N.S.	When Constructed.
Ammonia, Anyhdrous, Storage & Handling	Basic Rules - Non-Refrigerated Containers	1910.111(b21)	22224	23663		X		N.S.	Original Test
	Basic Rules-Containers	1910.111(b2v)	22224	23663		X		N.S.	After Construction.
	Stationary, Non-Ref. Storage Container	1910.111(c4i)	22228	23667		X		N.S.	Before Putting Back In Service.
	Refrigerated Storage System	1910.111(d6)	22228	23667	X	X		N.S.	Before Putting Back In Service.
Asbestos	Monitoring-Initial Determinations	1910.93a(f1)	22143	23544			Monitor Every Employees Exposure	Yes	Within 6 months of Publication of this Section.
	Personal Monitoring	1910.93a(f2i&ii)	22143	23544			Personal Monitoring	Yes	Maximum Every 6 Mos.
	Environmental Monitoring	1910.93a(f3i&ii)	22143	23544			Environmental Monitoring	Yes	Maximum Every 6 Mos.
	Record Keeping	1910.93a(i1,2&3)	22144	23545			Exposure Records	Yes	Maintain at Least 3 Yrs.
	Medical Examinations	1910.93a (J1,2,3,4,5&6 i&ii)	22144	23545			Medical Exam.	Yes	Within 30 Days After Employment, Thereafter at Least Annually.
Bakery Equipment	Manually Fed Dough Brakes	1910.263(h2)	22324	23763			Check	N.S.	Every 30 days.
	Safety Devices on Ovens	1910.263(L9ii)	22328	23767	X			N.S.	Not less than twice a month by employee and once a year by Mfg.
	Ovens-Safety Shutoff Valve	1910.263(L9Vb)	22328	23767		X		N.S.	At least twice monthly.
	Ovens-Indirect Fired	1910.263(L13ii)	22329	23768	X	X		N.S.	Once each year.
	Ovens-Duct Systems	1910.263(L15iii)	22329	23768		X		N.S.	In initial starting and at intervals not farther apart than 6 months.
Compressed Gases (General Requirement)	Inspection of Compressed Gas Cylinders	1910.101(a)	22163	23602	X			N.S.	As required to determine cylinders are in safe condition.
Compressed Gas Cylinders, Inspection	General Requirements - Cylinders	1910.166(b1&2)	22248	23687	X			N.S.	N.S.
	Inspect L.P. Cylinders	1910.166 (c1,2,31,ii&iii)	22248	23687	X			N.S.	N.S.
	Inspect Seams & Pressure Openings	1910.166(C3iia)	22249	23688			Check Leaks	N.S.	N.S.
	Hydrostatic Test L.P. Cylinders	1910.166 (d1,2,3&4ii)	22249	23688	X	X		N.S.	Periodically
	High Pressure Cylinders	1910.166 (e2&3i Thru X)	22249	23688	X	X		N.S.	N.S.
	Internal Inspection	1910.166(f1&2)	22250	23689	X	X		N.S.	Every time cylinder is retested.
Cooperage Machinery	Inspection & Maintenance of Cooperage Machinery	1910.214(N)	22278	23717	X			N.S.	When dull, badly set, improperly filed or improperly tensioned.
Cranes, Crawler, Locomotive & Truck	Inspection Classification	1910.180 (d1,2,3,4,5&6)	22265	23704	X			Yes	Frequent (daily to monthly). Periodic (1-12 month intervals).
	Testing	1910.180 (e1&2i,ii, iii&iv)	22265	23704		X		Yes	Prototype & Quality Control Tests to extent necessary.
	Rope Inspection	1910.180 (g1&2i,ii&iii)	22265	23704	X			Yes	At least once a month and before it is placed in service.

Best Available Document

OSHA ALPHABETICAL INDEX	SECONDARY SUBJECT	SECTION	1972 PAGE	1974 PAGE	REQUIREMENT INSP.	TEST	MISCELLANEOUS	RECORD KEEPING*	FREQUENCY
Cranes, Overhead & Gantry	Inspection	1910.179 (J1,2,3&4, ii&iii)	22262	23701	X			Yes	Frequent (daily to monthly). Periodice (1-12 month intervals).
	Testing	1910.179(K1&2)	22262	23701		X		Yes	Prior to initial use.
	Rope Inspection	1910.179(H1&2)	22263	23702	X			Yes	At least once a month.
Derricks	Inspection	1910.181 (d1,2,3,4i, ii&iii)	22268	23707	X			Yes	Frequent (Daily to monthly). Periodic (1-12 month intervals).
	Testing	1910.181(e1&2)	22268	23707		X		N.S.	Prior to initial use.
	Rope Inspection	1910.181 (g1,2,3&4)	22269	23708	X			Yes	At least once a month. Before it is placed in service.
Dip Tanks Containing Flammable or Combustible Liquids	Operations & Maintenance	1910.108(f3)	22192	23631	X			N.S.	Periodic
Egress, Means of, General	Automatic Sprinkler Systems	1910.37(M)	22132	23533	X	X		N.S.	Periodic
	Alarm &Fire Protection Systems	1910.37(M1)	22132	23533		X		N.S.	Weekly
Electrical, Application	Definitions	1910.308 (d3i,ii,iii&iv)	22342	23783	X	X		Yes	Periodic
Explosives & Blasting Agents	Transportation of Explosives	1910.109 (d2iv a Thru g)	22197	23636	X			N.S.	N.S.
	Watergel Explosives & Blasting Agents	1910.109(h3vb)	22201	23640	X			N.S.	Daily
Eye & Face Portection	General-Standard	1910.133(a6)	22231	23671		X		N.S.	See Z87.1-1968
Fire Protection Extinguishing Systems,Carbon Dioxide	Inspection & Maintentance	1910.161 (b1i Thru vi)	22247	23687	X	X		N.S.	At least annually & weigh at least semi-annually.
Fire Protection Extinguishing Systems,Fixed Dry Chemical	Inspection & Maintenance	1910.160 (c1i Thru vii)	22247	23687	X	X		Yes	Annually & Semi-annually.
Fire Protection Fire Alarm, Signaling Systems	Maintenance	1910.163 (C)	22247	23687	X	X		N.S.	Weekly
Fire Protection, Fire Extinguishers, Portable	Inspection, Maintenance & Hydrostatic Tests	1910.157(d1i&ii)	22244	23684	X	X		N.S.	N.S.
Fire Protection,Fire Extinguishers, Portable	Inspection of Extinguishers	1910.157 (d2i&ii)	22244	23684	X			N.S.	Monthly or at more frequent intervals.
	Maintenance of Extinguishers	1910.157 (d3i&iv)	22244	23684	X			Yes	Regular intervals not more than one year apart.
	Hydrostatic Tests	1910.157 (d4i,iii,iv, v,vi,viii, ix & x)	22245	23685		X		Yes	See details each section.
Fire Protection Sprinkler Systems, Automatic	Sprinkler Alarms	1910.159(C1iii)	22246	23686	X			N.S.	N.S.
Fire Protection, Standpipe & Hose Systems	Standpipe & Hose Systems	1910.158 (d1)	22246	23686		X		N.S.	When new.
	Standpipe & Hose Systems	1910.158 (d2i&ii)	22246	23686	X			N.S.	Frequently.
Flammable & Combustible Liquids	Tank Storage	1910.106 (b5viv1,2&3)	22176	23615	X			N.S.	Periodically.
	Tank Storage	1910.106 (b7i,ii,iii, iv & v)	22176	23615		X		N.S.	When constructed or derated.
	Piping,Valves & Fittings	1910.106(C11)	22176	23615	X	X		N.S.	When constructed.
	Piping,Valves & Fittings	1910.106(C7)	22177	23616		X		N.S.	Before being placed in service.
	Industrial Plants	1910.106(e5v)	22180	23619	X	X		N.S.	Periodically

OSHA ALPHABETICAL INDEX	SECONDARY SUBJECT	SECTION	1972 PAGE	1976 PAGE	REQUIREMENT INSP.	TEST	MISCELLANEOUS	RECORD KEEPING*	FREQUENCY
Flammable & Combustible Liquids	Industrial Plants-Repairs	1910.106(e8)	22180	23619	X			N.S.	During repairs.
	Bulk Plants-Pumps, Hoses, and Couplings	1910.106 (f4vi&vii)	22182	23621	X	X		N.S.	Not more than yearly. Appropriate intervals.
	Service Station-Storage Tanks	1910.106(g1ig)	22183	23622			Inventory Record	Yes	N.S.
	Service Station-Piping System	1910.106(g3vf)	22184	23623		X		N.S.	After installation - thereafter 5-year intervals.
	Process Plant-Fire Control	1910.106(h6iv)	22186	23625	X	X		N.S.	Periodically
	Process Plant-Hotwork	1910.106(h7iib)	22186	23625	X			N.S.	During repairs.
Forging Machines	General Requirement - Forge Shop	1910.218 (a2i,ii,iii&iv)	22288	23727	X		Safety Check	Yes	Periodically & Regular.
	General Requirement - Tongs	1910.218(a3v)	22288	23727	X		Hardness Check	N.S.	Periodic
	Upsetters	1910.218(h4)	22289	23728	X		Hardness Check	N.S.	Periodic
Gases, Compressed, Air Receivers	Installation & Equipment Requirements	1910.169(b3iv)	22253	23692		X		N.S.	Regular intervals
Gases, Compressed, Cargo & Portable Tanks, Relief Devices	General Requirement -Safety Relief Devices	1910.168(b4iii)	22252	23691	X			N.S.	Periodic
Guarding, Floor Openings	Railing Framing	1910.23(e3iv)	22109	23509			200 Pound Load	N.S.	When installed.
	Railing Construction	1910.23(e3vb)	22109	23509			200 Pound Pressure	N.S.	When installed.
	Handrails	1910.23(e5iv)	22110	23510			200 Pound Load	N.S.	When installed.
	Floor Opening Covers	1910.23(e7i&ii)	22110	23510			20,000 Pound load	N.S.	When installed.
Guarding, Floor Openings	Skylight Screens	1910.23(e8)	22110	23510			200 Pound Load	N.S.	When installed.
	Wall Opening Barriers	1910.23(e9)	22110	23510			1000 Pound Load	N.S.	When installed.
	Wall Opening Grab Handle	1910.23(e10)	22110	23510	X			N.S.	When stored.
	Wall Opening Screen	1910.23(e11)	22110	23510	X			N.S.	Prior to painting.
Hydrogen	Gaseous System-Containers	1910.103(b1&2)	22164	23603		X		N.S.	When constructed.
	Gaseous System-Piping	1910.103(b1vi)	22164	23603		X		N.S.	After installation.
	Gaseous Hydrogen Systems	1910.103(b5i)	22165	23604	X			N.S.	Periodic.
	Liquified System-Containers	1910.103(c1ib)	22165	23604		X		N.S.	When constructed.
	Liquified System-Piping & Containers.	1910.103 (c1vii&b)	22166	23605	X	X		N.S.	After installation. Container out of service one year.
	Liquified Hydrogen Systems	1910.103(c5i)	22168	23608	X			N.S.	Periodic
Ladders, Fixed	Maintenance	1910.27(f)	22121	23522	X			N.S.	Regularly.
Ladders, Portable, Metal	Testing Various Types	1910.26 (b1,2&3i&ii)	22118	23518		X	Load Tests	N.S.	N.S.
	Hardware Fittings	1910.26(c2iv)	22118	23518			Check	N.S.	Frequently.
	Ropes & Cables	1910.26(c2v)	22118	23518	X			N.S.	Frequently.
	Care & Maintenance	1910.26 (c2via,b,c,&d)	22118	23518	X			N.S.	Periodically.
Ladders, Portable, Wood	Care & Use of Ladders	1910.25(div)	22115	23515	X			N.S.	When stored.
	Care & Use of Ladders	1910.25(diix)	22115	23515	X			N.S.	Prior to painting.
	Defective Ladders	1910.25(dix)	22116	23516	X			N.S.	Frequently.
Laundry Machinery & Operations	Operating Rules	1910.264(d2iv)	22331	23771	X			N.S.	At least once a year.
Liquified Petroleum Gases	Basic Rules-Containers	1910.110 (b3i Thru v)	22204	23643		X		N.S.	Per applicable code.
	Basic Rules - Piping	1910.110(b8ix)	22206	23645		X		N.S.	After installation.
	Liquified Petroleum Gas Service Stations-Piping	1910.110(h9vii)	22223	23662		X		N.S.	After assembly.

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Logging, Pulpwood	General Requirement-First Aid Kits	1910.266(c1vii)	22339	23778	X			N.S.	Regularly.
	General Requirment-Hand Tools	1910.266(c21)	22339	23778	X			N.S.	When furnished.
	General Requirement-All Tools	1910.266(c21x)	22339	23778	X			N.S.	Periodic.
	General Requirement-Work Area	1910.266(c41)	22339	23778			Check	N.S.	Periodic.
	General Requirement-Chain Saws	1910.266(c51)	22339	23778	X			N.S.	Daily.
	General Requirement-Stationary & Mobile Equipment	1910.266(c6v)	22339	23778	X			N.S.	N.S.
	General Requirement-All Controls	1910.266(c61x)	22339	23778	X			N.S.	N.S.
Manlifts	Periodic Inspection	1910.68(e1,263)	22139	23540	X			Yes	Not more than every 30 days, but limit switches weekly.
Noise Exposure, Occupational	Protection-Analysis	1910.95(a)	22157	23596			Octave Band Analysis	Yes	When sound level exceeds values in Table G-9
	Protection-Conservation Program	1910.95(b3)	22157	23596			Hearing Conservation	Yes	When sound level exceeds values in Table G-16
Oxgen	Bulk Systems-H.P. Containers	1910.104 (b4iiiafb)	22168	23607				N.S.	When constructed.
	Bulk Systems-Piping Tab.	1910.104(b5iii)	22168	23607		X		N.S.	When constructed.
	Bulk Systems-Equipment Piping	1910.104(b8v)	22169	23608		X		N.S.	After installation.
	Bulk System	1910.104(b10i)	22169	23608	X			N.S.	Periodic by oxygen supplier rep.
Paper Pulp & Paperboard Mills	Safe Practices	1910.261(b5)	22312	23751		X		N.S.	Before entering closed vessels, tanks, etc.
	Rag Cookers	1910.261(f61iii)	22314	23753	X			N.S.	When entering rag cooker.
	Employee Protection	1910.261(g2iii)	22314	23753	X			N.S.	During inspection of Acid Towers.
	Acid Tower Structure	1910.261(g3)	22314	23753	X			N.S.	Daily during winter months & monthly.
	Hoops For Acid Storage Tanks	1910.261(g7)	22314	23753	X			N.S.	N.S.
	Gas Masks (Digester Bldg.)	1910.261(g10)	22316	23753	X	X		N.S.	Frequent intervals not to exceed one month.
Paper Pulp & Paperboard Mills	Digester Piping	1910.261(g12iii)	22314	23753	X			N.S.	At least semi-annually.
	Valves-Lockout	1910.261(g15i)	22315	23754	X			N.S.	When inspecting Digester.
	Lifelines	1910.261(g15iii)	22315	23754	X			N.S.	When inspecting Digester.
	Safety Equipment	1910.261(g15v)	22315	23754	X			N.S.	When inspecting Digester.
	Pressure Tanks-Accumulators	1910.261(g16ii)	22315	23754	X			N.S.	Twice annually.
	Pressure Vessels (Safety Devices)	1910.261(g17i)	22315	23754			Check	N.S.	Between each cook.
	Digester Piping	1910.261(g18iii)	22315	23754	X			N.S.	At least semi-annually.
	Valves-Lockout	1910.261(g19iii)	22315	23754	X			N.S.	When inspecting Digester.
	Valves-Lockout	1910.261(g21)	22315	23754	X			N.S.	When inspecting Tanks.
	Gas Mask Usage	1910.261(h3ii)	22315	23754	X			N.S.	When exposed to Chlorine Gas.
	Control Devices-Lockout	1910.261(J4iii)	22316	23756	X			N.S.	When entering beaters.
Paper Pulp & Paperboard Mills	Safety Provisions	1910.261 (J5iii&iii)	22316	23756	X			N.S.	When entering pulper.
	Low voltage Extension light	1910.261 (J6iii)	22316	23756	X			N.S.	When entering Stock Chests.
	Emergency Stop	1910.261(K1)	22316	23756		X		N.S.	Periodic
	Lifting Equipment	1910.261 (K2iii)	22317	23757	X			N.S.	Regularly.
	Emergency Stop	1910.261(L2)	22317	23757		X		N.S.	When stopping the machine

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Platforms, Powered for Exterior Building Maintenance	Rope Tag Data	1910.66 (C2ii,iiiiii)	22134	23535			Metal Tag	Yes	With each rope renewal.
	Powered Platform	1910.66(e1)	22134	23537		X		N.S.	Before being put in service and after alteration.
	Installation	1910.66(e2)	22134	23537	X			N.S.	Periodic
	Installation	1910.66(e3)	22134	23537	X			Yes	Prior to cleaning or 30 days maximum.
	Governors & Secondary Brakes	1910.66 (e4i,ii,iii, iv&v)	22134	23537	X			N.S.	Intervals not exceeding one year.
	Hoisting Ropes	1910.66(e8)	22136	23537			Reshackle Hoisting Ropes	N.S.	Not to exceed 24 months.
	Safety Devices	1910.66(e9)	22136	23537	X			Yes	When necessary
Power Presses, Mechanical	Inspection, Maintenance & Modification	1910.217(e1,2&3)	22207	23726	X			Yes	Periodic & regular.
Power Transmission Apparatus, Mechanical	Prime Mover Guards	1910.219(b1iv)	22289	23728	X			N.S.	Periodic
	Power Transmission Equip.	1910.219(P1)	22293	23732	X			N.S.	Intervals not exceeding 60 days.
	Hangers	1910.219(P4)	22293	23732	X			N.S.	N.S.
	Cast Iron Pulleys	1910.219(P5iii)	22293	23732		X		N.S.	Frequently
	Split Pulleys	1910.219(P5iv)	22293	23732	X			N.S.	N.S.
	Belts, Lacings & Fasteners	1910.219(P6ii)	22293	23732	X			N.S.	N.S.
Radiation, Ionizing	Individual Exposure	1910.96 (b1&2i,ii&iii)	22158	23597			Permissible Dose	Yes	Sufficient to control calendar quarter dose.
	Precautionary Procedure & Personal Monitoring	1910.96 (d1&2i,ii&iii)	22159	23598			Radiation Survey	Yes	As necessary by all entering.
	Signal Generating System	1910.96 (f3i Thru viii)	22160	23599	X	X	Check	N.S.	Initially & periodically.
	Notification of Incidents	1910.96 (L1&2i,ii&iii)	22161	23600			Notify by phone or telegraph	Yes	Immediately of any incident.
	Over Exposure & Excessive Levels & Concentrations	1910.96(M1&2)	22161	23600			Written Report	Yes	Within 30 days to Asst. Secretary of Labor.
Radiation, Ionizing	Record of Employees Exposure.	1910.96(N1&2)	22161	23600			Record Keeping	Yes	At least annually.
	Disclosure to Former Employees	1910.96(O1&2)	22161	23600			Individual Exposure	Yes	Within 30 days of request.
	Radiation Standards for Mining	1910.96 (R3&4&ii)	22162	23601			Environmental Concentration	Yes	Establish & maintain records.
Respiratory Protection	Requirements for Minimal Acceptable Program	1910.134(b1)	22231	23670			Written Procedure	Yes	When equipment purchased.
	Respirators	1910.134(b7)	22232	23671	X			N.S.	Once per month & after each use.
	Evaluate the Program	1910.134(b9)	22232	23671	X			N.S.	Regularly
	Health & Physical Requirements	1910.134(b10)	22232	23671			Medical Exam	N.S.	Periodically (For instance, annually).
	Air Quality	1910.134(d2i)	22232	23671		X		N.S.	Per DOT (49 CFR Part 178).
	Air Supply Quality	1910.134(d2ii)	22232	23671		X		N.S.	Frequently.
	Use & Issue of Respirators	1910.134(e2)	22232	23671			Record Issue	Yes	Record date at issue.
	Use of Respirators	1910.134(e4)	22232	23671	X			N.S.	Frequent random inspections.
	Respirator Fit	1910.134(e5i)	22232	23671			Check fit	N.S.	Periodically & with each wearing.
	Maintenance & Care	1910.134 (f1i,ii,iii&iv)	22232	23671	X			N.S.	N.S.
Respiratory Protection	Maintenance & Care	1910.134 (f2i,ii,iii&iv)	22233	23672	X			Yes	Before & after use & at least monthly.
	Maintenance & Care & Storage	1910.134(f5i)	22233	23672	X			N.S.	After cleaning and repair.

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Sawmills	Stationary Tramways & Trestles	1910.265(c19i)	22333	23773	X			N.S.	Frequently.
	Ropes, Cables, Slings & Chains	1910.265(c24iii)	22334	23774	X			N.S.	N.S.
	Slings	1910.265(c24iv)	22334	23774	X			N.S.	Daily
	Ropes & Cables	1910.265 (c24Vai Thru 6)	22334	23774	X			N.S.	When installed and once each week thereafter.
	Chains	1910.265 (c24ixa)	22334	23774	X			N.S.	Before initial use and weekly thereafter.
	Stackers & Unstackers	1910.265(c26ix)	22335	23775	X			N.S.	Frequent.
	Cable or Dogging Lines	1910.265(d21iid)	22336	23776	X			N.S.	Periodic.
	Bilge Area	1910.265(d21vd)	22336	23776	X			N.S.	N.S.
	Band Head Saws	1910.265(e21b)	22337	23777	X			N.S.	N.S.
	Band Head Saw Wheels	1910.265(e21ib)	22337	23777	X			N.S.	Monthly.
Scaffolding, Safety Requirements For	Tube & Coupler Scaffolds	1910.28(c4)	22124	23525	X			Yes	When designed.
	Tube & Coupler Scaffolds	1910.28(c5)	22124	23525	X			Yes	When constructed & erected.
	Frame Scaffolds Over 125 Feet in Height	1910.28(d11)	22124	23525	X			Yes	When designed.
	Welded Frame & Accessories	1910.28(d14)	22124	23525	X			N.S.	Periodically.
	Mason's Adjustable Multiple Point Suspension Scaffolds	1910.28(f11)	22125	23526	X			N.S.	Before installation & periodically thereafter.
	Two Point Suspension Scaffolds	1910.28(g8)	22125	23526	X			N.S.	Before installation & periodically while in use
	Single Point Adjustable Suspension Scaffolds	1910.28(16)	22126	23527	X			N.S.	After installation every 30 days thereafter.
	Interior Hung Scaffolds	1910.28(P6)	22127	23528	X			N.S.	Before erection.
Spray Finishing Using Flammable & Combustible Material	Hose & Couplings	1910.107(e6iii)	22189	23628	X			N.S.	Regular intervals.
Stairs, Fixed Industrial	Stair Strength	1910.24(c)	22110	23510			100 Pound Load	N.S.	When installed.
Textiles	All Guards & Safety Devices	1910.262(c5)	22319	23758	X			N.S.	N.S.
Tools, Hand & Portable Powered, Guarding of	Portable Abrasive Wheels	1910.243(c51)	22296	23735	X		Speed Check	N.S.	Before mounting.
	Explosive Actuated Fastening Tools	1910.243(d41)	22297	23736	X			N.S.	Before using.
Tools, Hand & Portable Powered, Guarding of	Explosive Actuated Fastening Tools	1910.243(d4xiv)	22297	23736	X			N.S.	At regular intervals.
Trucks (Powered Industrial)	Maintenance	1910.178(q7)	22258	23697			Examination	N.S.	After each shift.
Ventilation	Blast Cleaning Enclosures	1910.94(a3ia)	22145	23584	X			N.S.	Regularly.
	Abrasive Blasting, Exhaust System	1910.94(a4)	22145	23584	X			N.S.	N.S.
	Abrasive Blasting, Exhaust Blasting	1910.94(a4b)	22145	23584			Check static pressure drop	N.S.	When installation complete. Thereafter periodically.
	Personal Protective Equipment	1910.94(a5iv)	22145	23584			Respiratory Protection Program	N.S.	As necessary.
	Hood & Duct System For Open Surface Tanks	1910.94(d8i)	22156	23595	X			N.S.	After prolonged shutdown or not more than 3 months
	Open Surface Tanks	1910.94(d8iii)	22156	23595			Measure Makeup Air Flow	N.S.	On installation - periodically thereafter .
	Open Surface Tanks	1910.94 (d11iii&iv)	22157	23596	X	X		N.S.	Prior to cleaning, inspection or maintenance
Welding, Cutting & Brazing	Installation & Operation of Oxygen Fuel Gas Systems for Welding & Cutting	1910.252(a4iiig)	22301	23740			Examined Internally	N.S.	Before assembly examine fitting and pipe.
	Piping Systems of Oxygen Fuel Gas Systems	1910.252(a4va)	22302	23741		X		N.S.	Before being placed in service.

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Welding, Cutting & Brazing	Hose & Hose Connections	1910.252(a5ve)	22302	23741		X		N.S.	N.S.
	Union Nuts & Connections on Regulators	1910.252(a5vid)	22302	23741	X			N.S.	Before use.
	Calcium Carbide Containers Stored Outside	1910.252(a7iiib)	22303	23744			Examination	N.S.	Periodic.
	Installation of Arc Welding Equipment	1910.252 (b3iidse)	22306	23745	X		Check	N.S.	Periodic.
	Machine Hook Up	1910.252 (b4iiclii)	22306	23745			Check All Connections	N.S.	Before starting operations.
	Machines Which Have Become Wet	1910.252(b4ixb)	22306	23745		X		N.S.	Before being used.
	Work & Electrode Lead Cables	1910.252(b4ixc)	22306	23745	X			N.S.	Frequently.
	Resistance Weling Equipment	1910.252(c6)	22307	23746	X			Yes	Periodic.
	Fire Prevention & Protection	1910.252(dliv)	22307	23746	X			Yes	Before cutting or welding
	Industrial Applications	1910.252(gliv)	22311	23750		X		N.S.	When pressure testing pipelines.
	Industrial Applications, X-Ray Inspection	1910.252(glvii)	22311	23750	X			N.S.	When welding pipeline joints.
	Mechanical Piping Systems X-Ray Inspection	1910.252(g2ii)	22311	23750	X			N.S.	When welding pipeline joints.
Woodworking Machinery Requirements	Saws	1910.213(S1)	22277	23716	X			N.S.	When dull, badly set, improperly filed or improperly tensioned.

*N.S. - Not Specified

See also 1910.93 Section-not included above.

1. Toxic and Hazardous Substances (29 CFR 1910.20)

Where employers are subject to standards regulating exposure to toxic substances, special recordkeeping provisions are encountered. Since the Act does not describe exactly what must be recorded or in what form recorded information should be compiled, employers must check specific standards very carefully. Section 8(c)(3) of the Act mandates the issuance of regulations which require employers to maintain accurate records of employee exposure to potentially toxic materials or harmful physical agents which are required to be monitored or measured under Section 6 of the Act. These regulations are generally set forth in 29 CFR 1910.20, discussed *supra*.

2. Asbestos (29 CFR 1910.1001)

Under the old standard, employers were required to maintain records of any personal or environmental monitoring of employee exposure to asbestos. 29 CFR 1910.93(a)(i)(1). The District of Columbia Circuit Court of Appeals, however, held that the three-year record retention period required under this regulation was arbitrary and capricious. *Industrial Union Department, AFL–CIO v. Hodgson*, 499 F.2d 467, 1 OSHC 1631 (D.C. Cir. 1974). The Department of Labor revised the standard effective July 1, 1976. Under the revised standard, records of personal or environmental monitoring must be maintained for a period of at least twenty (20) years, and must be made accessible to OSHA and NIOSH.

The standard was revised again due to the promulgation of the OSHA final rule on access to exposure and medical records. Thus employee exposure records required by the standard shall be provided upon request to employees' designated representatives and OSHA, in accordance with 29 CFR 1910.20(a)–(e) and (g)–(l). Records of medical examinations shall be provided, upon request, to employees' designated representatives and OSHA again in accordance with 29 CFR 1910.20. These records shall also be provided upon request to NIOSH. Any physician who conducts a medical examination required by the standard shall furnish to the employer of the examined employee all the information specifically required by this para-

graph and any other medical information related to occupational exposure to asbestos fibers.

3. Cotton Dust (29 CFR 1910.1043)

The cotton dust standard requires employer preparation and maintenance of records of exposure measurements. The required records include name and job classification of employees measured, details of the sampling and analytic techniques, weight of the dust collected, results, type of respiratory protection worn, and exposure levels. The standard also requires records of medical surveillance. These include names of employees, the physician's written opinion, employee medical complaints, a copy of the results of the examination, and the information furnished by the employer to the examining physician.

Employee exposure measurement records and employee medical records required by this paragraph shall be provided upon request to employees, designated representatives, and OSHA, in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). The employer shall also comply with any additional requirements involving the transfer of records set forth in 29 CFR 1910.20(h).

4. Ionizing Radiation (29 CFR 1910.96)

Employers must maintain records of the radiation exposure of all employees for whom personal monitoring is required. Every monitored employee must be advised of his individual exposure level on at least an annual basis, and the monitoring records must be maintained for an indefinite period. 29 CFR 1910.96(n). Upon the request of a former employee, a report of the employees to radiation as shown in the records maintained by the employer must be supplied within thirty (30) days.

5. Carcinogens (29 CFR 1990.151)

Prior to 1978, employers subject to carcinogen standards were required to maintain monitoring, measuring, and personal records, as well as records of medical examinations. 29 CFR 1910.93. This standard was removed and its provisions incorporated in other standards.

The new cancer policy provides in the "model standard" section that employers will be required to establish and maintain certain monitoring, exposure, and medical surveillance records for specified periods of time, depending upon the identification and classification of the occupational carcinogen involved and the outcome of the rule-making with respect thereto. Employee exposure measurement records and medical records shall be provided upon request to employees, designated representatives, and OSHA in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). Provisions on the trans-

fer of records when an employer ceases to do business are also contained in the standard. The employer also must comply with additional transfer requirements set forth in 29 CFR 1910.20(h).

6. Benzene (29 CFR 1910.1028)

Employers must establish and maintain records of all measurements of environmental and biological (exposure) monitoring and medical surveillance for at least forty (40) years or the duration of an employee's employment plus twenty (20) years, whichever is longer. Access to the records is required for employees, former employees, NIOSH, and OSHA. Provisions for transfer of records are also provided. Employee exposure measurement records and employee medical records required under the standard shall be provided upon request to employees, designated representatives and OSHA in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). Employers shall also comply with additional requirements involving the transfer of records set forth in 29 CFR 1910.20(h).

7. Coke Oven Emissions (29 CFR 1910.1029)

The employer must establish and maintain records of all measurements taken to monitor employee exposure to coke oven emissions and for all employees subject to medical surveillance. The records must be maintained for at least forty (40) years or for the duration of employment plus twenty (20) years, whichever is longer. Records of employee medical examinations must also be maintained.

Employee exposure measurement records and employee medical records required by the standard shall be provided upon request to employees, designated representatives and OSHA in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). Employers shall also comply with any additional requirements involving the transfer of records set forth in 29 CFR 1910.20(h).

8. Lead (29 CFR 1910.1025)

The final lead standard requires employers to complete and maintain records of all monitoring and employee exposure measurements. The records required include name and job classification of employees measured, details of the sampling and analytic techniques, results, and type of respiratory protection worn. The standard also requires maintainance of records of medical surveillance (biological monitoring and medical exam results). These include names of employees, the physician's written opinion, and a copy of the results of the examination. These records must be kept for forty (40) years or for the duration of employment plus twenty (20) years, whichever is longer.

The standard also contains a recordkeeping requirement concerning re-

movals of employees from exposure to lead pursuant to the medical removal protection program of the standard.

Environmental monitoring, medical removal, and medical records required by the standard shall be provided upon request to employees, designated representatives, and OSHA in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). Medical records shall be provided in the same manner as environmental monitoring records. Employer shall also comply with any additional requirements involving the transfer of records set forth in 29 CFR 1910.20(h).

9. Inorganic Arsenic (29 CFR 1910.1018)

Employers must maintain accurate records of exposure monitoring and of all employees subject to medical surveillance for at least forty (40) years or for the duration of the employees employment plus twenty (20) years, whichever is longer. Records required by the standard shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). Employers shall also comply with any additional requirements involving the transfer of records set forth in 29 CFR 1910.20(h).

10. Vinyl Chloride (29 CFR 1910.1017)

Records of required monitoring and measuring and personnel rosters shall be maintained for not less than thirty (30) years; medical records shall be maintained for the duration of employment of each employee plus twenty (20) years or thirty (30) years, whichever is longer. Reports must be made to OSHA with respect to regulated areas and employee exposure in excess of the permissable exposure limit set forth in the standard.

Employers must report emergencies and pertinent facts to OSHA within twenty-four (24) hours.

Records of required monitoring and measuring and medical records shall be provided upon request to employees, designated representatives, and OSHA in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). These records shall be provided upon request to NIOSH. Authorized personnel rosters shall also be provided upon request to OSHA and NIOSH. In the event that the employer ceases to do business and there is no successor to receive and retain his records for the prescribed period, these records shall be transmitted by registered mail to NIOSH, and each employee individually notified in writing of this transfer. The employer shall also comply with any additional requirements set forth in 29 CFR 1910.20(h).

11. Acrylonite (29 CFR 1910.1045)

Records of materials exempted under the standard must be maintained, as well as exposure monitoring records and medical surveillance records

which must be kept for at least forty (40) years or the duration of employment plus twenty (20) years, whichever is longer. Records required by this section shall be provided upon request to employees, designated representatives, and OSHA in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). Records required by the standard shall be provided in the same manner as exposure monitoring records. The employer shall also comply with any additional requirements involving the transfer of records set forth in 29 CFR 1910.20(h).

Reporting of information in regulated areas, emergencies, emergency plans, and compliance program is also provided.

12. Commercial Diving Operations (29 CFR 1910.440)

Reports on diving-related illnesses or injuries, decompression sickness, repair, and modifications to equipment are to be maintained. The records and documents required by the standard must be provided upon request to employees, designated representatives, and OSHA in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). Safe practice manuals, depth-time profiles, recordance of dives, decompression procedure assessment evaluations, and records of hospitalizations shall be provided in the same manner as employee exposure records or analyses using exposure or medical records. Equipment inspections and testing records, which pertain to employees, shall also be provided upon request to employees and their designated representatives.

After the expiration of the retention period of any record required to be kept for five years, the employer shall forward such records to NIOSH. The employer shall also comply with any additional requirements with respect to the transfer of records set forth in 29 CFR 1910.20(h).

13. 1, 2-dibromo-3-chloropropane [DBCP] (29 CFR 1910.1044)

The employer is required to maintain records of exposure monitoring and employee medical surveillance for at least forty (40) years or the duration of employment plus twenty (20) years, whichever is longer. Access to the records shall be provided upon request to employees, designated representatives, and OSHA in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). Provisions on the transfer of records if the employer ceases to do business as set forth in 29 CFR 1910.20(h) is also provided.

14. Emergency Temporary Standard, pursuant to Section 6(c) (29 CFR 1990.152)

The employer shall assure that all records required to be maintained by the standard be made available upon request to OSHA and NIOSH for examination and copying. Employee exposure measurement records and employee medical records required shall be provided upon request to employ-

ees, designated representatives, and OSHA in accordance with 29 CFR 1990(a)–(e) and (g)–(i)

15. Other Toxic Substances

Various recordkeeping and reporting requirements are also set forth in the following "toxic and hazardous substances" standards: (1) alpha-Naphthylamine—29 CFR 1910.1004; (2) methyl chloromethyl ether—29 CFR 1910.1006; (3) 3, 3–dichlorobenzidine (and its salts)—20 CFR 1910.1007; (4) bis-chloromethyl ether—29 CFR 1910.1008; (5) beta-Naphthylamine—29 CFR 1910.1009; (6) benzidine—29 CFR 1910.1010; (7) 4–Aminodiphenyl—29 CFR 1910.1011; (8) Ethyleneimine—29 CFR 1910.1012; (9) beta-Propiolactone—29 CFR 1910.1013; (10) 2–Acetylaminofluorene—29 CFR 1910.1014; (11) 4–Dimethylaminoazobenzene—29 CFR 1910.1015; and (12) N–Nitrosodimethylamine—29 CFR 1910.1016; and (13) 4–nitrobipheny–1—29 CFR 1910.1003.

The records required by these standards to be maintained shall be provided upon request to employees, designated representatives, and OSHA in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i). These records shall also be provided upon request to NIOSH.

16. Other Requirements

In addition to specific recordkeeping requirements imposed upon employers with respect to toxic substances, employers are also required to record and maintain information under other standards, *inter alia:* (1) cranes and derricks (reports, load rating, inspections, conditions of ropes)—29 CFR 1910.179, 180, 181; (2) fire extinguishers—29 CFR 1910.157; (3) mechanical power presses—29 CFR 1910.217; (4) respiratory protection—29 CFR 1910.134; (5) forging machines—29 CFR 1910.218; (6) compressed air—29 CFR 1926.803; (7) hazardous materials—29 CFR 1910.106–108; (8) ground fault protection—29 CFR 1926.954; (9) ship repairing—29 CFR 1915.57, shipbuilding—29 CFR 1916.57 and ship breaking—29 CFR 1917.57; and (10) explosives—29 CFR 1926.900.

Failure to maintain the required records may result in a citation. *Overhead Door Corporation,* 7 OSHC 1280 (1979); *Everglades Sugar Refinery, Inc.,* 7 OSHC 1410 (1979).

SPECIFIC REPORTING REQUIREMENTS

1. Fatality and Multiple Hospitalization Reports

All employers subject to the Act must report within forty-eight (48) hours[19] thereof any employment accident which results in the *death* of *one* (1) or more employees or which causes the *hospitalization*[20] of *five* (5) or more

employees. See Section 8(c)(2) of the Act: 29 CFR 1904.8. There is no small employer "reporting exception."

The report can be *oral or written* and the regulations explicitly authorize the telephone and telegraph as appropriate means for transmission. An Area Director's receipt of actual notice through a television news broadcast has even been held sufficient; as is notification by newspaper. *Englehaupt Construction Corp.*, 1 OSHC 3049 (1972); *Fort Worth Enterprises, Inc.*, 2 OSHC 1103 (1974); *L. R. Brown, Jr., Painting Contractor*, 3 OSHC 1318 (1975). The required information includes the circumstances of the accident, the number of fatalities, and the extent of the injuries. In states with state plans, the report is made to the state agency with enforcement responsibilities.

Additional reports concerning the accident, in writing or otherwise, may be required. Failure to file a report may result in the issuance of a citation and assessment of penalties. See *Brennan v. Southern Contractors Service*, 492 F.2d 498, 500 n. 3, 1 OSHC 1648 (5th Cir. 1974), where the Fifth Circuit affirmed a fine of $200 for an employer's failure to report a fatal injury. As with any citation, however, not every failure to report will result in the assessment of penalties. The citation was affirmed but a $200 proposed penalty was vacated in *The Anderson Company*, 2 OSHC 3024 (1974). The Secretary bears the burden of proving that a reportable occupational accident has occurred. It is equally clear that where the evidence does not prove there was a "work-related" fatality, the alleged violation will be vacated. *Brilliant Electric Signs, Inc.*, 1 OSHC 3222 (1973)—death apparently due to a heart attack.

Section 9(c) of the Act does not bar the issuance of a citation more than six (6) months after the occurrence of violation when OSHA's failure to discover the violation within six (6) months was due to the employer's failure to report the fatality as required by 20 CFR 1904.8. *Yelvington Welding Service*, 6 OSHC 2013 (1978).

2. Reports of Power Press Injuries

Employers must report *all* "recordable" injuries to employees operating mechanical power presses (point-of-operation accidents), within thirty days of the accident, either to OSHA's Directorate of the Office of Standards Development or to the agency administering an approved state plan. The report must include (29 CFR 1910.217(g)):

(1) The name of the employer and the address of the establishment where the accident occurred;
(2) The employee's name, the injury sustained, and the task being performed;
(3) The type of clutch used on the press;
(4) The type of safeguards being used;
(5) The cause of feeding;
(6) The type of feeding;
(7) The means used to actuate the press stroke;
(8) The number of operators provided with controls and safeguards.

7. New Developments

a. *Diving Operations*

The emergency temporary standard for diving operations was stayed prior to its effective date by the court in *Taylor Diving and Salvage Co., Inc. v. United States Department of Labor*, 537 F.2d 819, 4 OSHC 1511 (5th Cir. 1976). Subsequently, a permanent standard was promulgated by OSHA and was codified in 29 CFR 1910.401–441. Again, the Fifth Circuit in *Taylor Diving and Salvage Company, Inc. v. United States Department of Labor*, 599 F.2d 622, 7 OSHC 1507 (5th Cir. 1979), vacated certain portions of the standard dealing with employer obligations to provide comprehensive medical examinations to divers in order to assure they are medically fit to perform their assigned tasks in a safe and healthful manner. The court concluded that the medical examination procedure was not reasonably necessary or appropriate to provide safe or healthful working conditions in the commercial diving industry. In effect, the medical examination provision imposed upon employers a mandatory job security provision, and the court felt that OSHA was not authorized to regulate job security as it attempted to do and interfere with the proper maintenance of employee/employer relations.

b. *Coke Oven Emissions*

A new health standard governing employee exposure to coke oven emissions was promulgated in 29 CFR 1910.1029, which prescribes particular controls and procedures to reduce coke oven employees' exposure in specified regulated areas to toxic emissions in concentrations no greater than 0.15 mg. of the benzene-soluble fraction of the total particulate matter (BSFTPM) per cubic meter of air (0.15 mg/m^3) present during the production of coke averaged over an eight-hour time period. Soon after issuance a challenge was filed. The court to which the challenge was directed in *American Iron & Steel Institute v. OSHA*, 577 F.2d 825, 6 OSHC 1451 (3d Cir. 1978) upheld: (1) the Secretary of Labor's factual determination that coke oven emissions are car-

cinogenic and that no safe level of exposure exists and that such determination is supported by substantial evidence; (2) that the exposure limits for coke oven emissions meet the technological feasibility requirement of the Act; (3) that the standard is not economically infeasible; and (4) that the decision to combine the performance standard for specific controls by requiring implementation of specific work practices and engineering controls for reduction of exposure to emissions together with the performance standard that includes an exposure limit was supported by the record in a reasoned analysis. However, the court stated that although the Secretary can impose a standard which requires an employer to implement technology looming on the horizon and is not limited to issuing a standard solely based on fully developed technology, the Act does not permit an affirmative duty to be placed upon an employer to research and develop new technology, holding the research and development provision standard invalid and unenforceable.

c. *Benzene*

OSHA promulgated a new health standard limiting occupational exposure to benzene, 29 CFR 1910.1028, which required employers to assure that no employee is exposed to an airborne concentration of benzene in excess of 1 part benzene per 1 million parts of air (1 ppm) averaged over an eight-hour day. Also, it required employers to assure that no employees are exposed to dermal contact with liquid benzene and required employers to assure that caution labels are affixed to all containers of products containing benzene and that the labels remain affixed when the product leaves the employers' workplace.

In *American Petroleum Institute v. OSHA*, 581 F.2d 493, 6 OSHC 1959 (5th Cir. 1978), the court, relying on the obligation set forth in Section 3(8) of the Act to enact only standards that are reasonably necessary or appropriate to provide safe or healthful workplaces and determining that Section 6(b)(5) of the Act requires that standards dealing with toxic materials be feasible, held that OSHA must determine whether the benefits expected from the standard bear a reasonable relationship to the costs imposed thereby and finding that OSHA failed to provide an estimate supported by substantial evidence of the expected benefits derived from lowering the permissible exposure limit for benzene from 10 ppm to 1 ppm, thus making it impossible to assess the reasonableness of the relationship between costs and benefits required, the court set the exposure limit aside. The court also set aside the provision prohibiting dermal contact with liquid benzene but upheld the prohibition against employers' removing warning labels from containers of benzene and benzene products when those containers leave the workplace. In *Industrial Union Department, AFL-CIO v. American Petroleum Institute*, 440 U.S. 906, 8 OSHC 1586 (1980), the Court affirmed the Fifth Circuit's holding that Section 3(8) of the Act requires that the Secretary of Labor find as a threshold matter that the "regulated" toxic substance poses a significant health risk in the workplace and that a new lower standard is therefore "reasonably necessary or appropriate" to provide safe or healthful employment in places of employment. The court also stated that unless and until such a finding is made, it was not necessary to address the further question whether there

must be a reasonable correlation between costs and benefits or whether OSHA and promulgation of standards may go as far as technologically and economically possible to eliminate the risk.

d. ***Cotton Dust***

A new permanent health standard, 29 CFR 1910.1043, limiting occupational exposure to cotton dust, sets forth permissible exposure limits for each manufacturing operation and industry that exposes workers to cotton dust. OSHA set: (1) a 200 microgram per cubic meter (200 $\mu g/m^3$) as the permissible exposure limit for lint-free, respirable cotton dust in yarn manufacturing; (2) a 750 $\mu g/m^3$ for slashing and weaving operations in the cotton industry; and (3) a 500 $\mu g/m^3$ for all other processes in the cotton industry and for all nontextile industries that expose its workers to cotton dust. In *AFL-CIO v. Marshall,* 617 F.2d 636, 7 OSHC 1775 (D.C. Cir. 1979), the court upheld OSHA's decision in this stringent regulation, which would reduce even the occurrence of reversible acute stage of disease. The court also held that that standard was both technologically and economically feasible and rejected the argument that OSHA must conduct a formal cost-benefit analysis before promulgating the standard. Moreover, the court upheld medical removal transfer and wage guarantee provisions of the standard as within OSHA's authority to adopt methods reasonably necessary to insure safe working conditions, impliedly adopting a job-security provision. The Supreme Court recently granted *certiorari* in the case and it is expected the forthcoming decision will specifically address the cost-benefit analysis question.

e. ***Lead***

OSHA recently issued a new standard designed to protect employees from exposure to airborne lead in the workplace. The standard restricts employee exposure to metallic lead, inorganic lead compounds, and organic lead soaps, and applies to almost all workplaces covered under the general industry standards. 29 CFR 1910.1025. The general scheme of the standard resembles earlier OSHA lead standards, but sets a permissible exposure limit (PEL) of 50 $\mu g/m^3$ and an action level of 30 $\mu g/m^3$. To determine whether exposure to any workplace exceeds the PEL or the action level, the employer must use environmental monitoring to measure airborne lead at least every six months or whenever changes in operations may alter lead exposures, and must warn employees whenever airborne lead exposure exceeds the PEL. Affected employers must meet the 50 $\mu g/m^3$ PEL immediately through some combination of engineering controls, work practices, or administrative controls and supplemental respirators. Under one of the most controversial portions of the standard, whenever biological monitoring reveals a worker has an abnormally high blood lead level or whenever medical surveillance reveals that a worker may suffer actual physical impairment from lead exposure, the employer must remove the employee from the workplace. Responding to challenges that were filed, the court in *United Steelworkers of America, AFL-CIO-CLC v. Marshall,*—F.2d—, 8 OSHC 1810 (D.C. Cir. 1980), upheld most aspects of the standard, remanding to OSHA for reconsideration only the

question of the feasibility of the standard for a number of the affected industries, rejecting many procedural arguments advanced by industries in challenge to the standard. The court also upheld the standard's medical removal provision,[13] and upheld a provision of the standard which grants both OSHA and NIOSH access to employee medical records and the disclosure of limited medical information to labor unions. The court found that OSHA in the lead standard met Section 3(8) of the Act's threshold test by proving significant risk.

f. ***Arsenic***

The permanent standard for inorganic arsenic, 29 CFR 1910.1018, reduces permissible worker exposure to 10 micrograms per cubic meter of air. Organic arsenic compounds and arsine are excluded from the standard and the exposure limits for those substances remain at the levels of 500 micrograms and 200 micrograms respectively. In addition to the eight-hour time-weighted exposure limit of 10 micrograms, the standard mandates an action level of 5 micrograms and also requires the use of respirators in plants with exposure levels higher than 500 micrograms and monitoring in all workplaces where inorganic arsenic is present. Challenges to the arsenic standard were filed in the Ninth Circuit in *Asarco, Inc. v. Marshall*, C.A. No. 78–1959, (9th Cir. 1979), but the court announced that it would not rule upon the validity of the standard until the issuance of the decision in the benzene case. Thus the court stayed certain provisions of the standard scheduled to go into effect before the expected date of the Supreme Court's decision, including those involving engineering and administrative controls, temperature controls, positive air pressure, and filtered air supply for lunchrooms.

g. ***Generic Cancer Policy***

The final OSHA comprehensive policy for regulating cancer-causing chemicals and other substances in the workplace entitled "Identification, Classification and Regulation of Potential Occupational Carcinogens" established the criteria and procedures under which substances will be regulated by OSHA. According to the "policy," potential occupational carcinogens will be identified and classified on the basis of human epidemiological studies and/or carcinogenesis bioassays on animals. Carcinogens are to be classified into two categories depending upon the nature and extent of available scientific evidence linking the substance to the causing of cancer. Category 1 substances are viewed by OSHA as presenting a grave danger to employee health. Other toxic substances which are linked to cancer scientifically but which present a lesser risk fall into Category 2. OSHA also lists a candidate's list of potential occupational carcinogens. Upon promulgation, the standard was challenged in the Fifth Circuit, the D.C. Circuit, and the District Court for the Southern District of Texas, which declined jurisdiction because the policy was a standard. *American Industrial Health Council v. Marshall*, 494 F. Supp. 941, 8 OSHC 1789 (S.D. Tex. 1980).

h. ***Access to Medical Records***

On May 21, 1980, OSHA issued a new regulation governing access by employees, unions, and OSHA to employee medical records, employee ex-

posure records, and analyses of employee exposure and medical records applicable to virtually every workplace in the nation except for agricultural employers. 29 CFR 1910.20 Access to medical records is required whether or not exposure to a toxic or harmful subject exceeds permissible limits imposed by OSHA and whether or not the substance is in fact even subject to OSHA regulations. The regulations require that employers preserve employee medical records for at least the duration of an employee's employment plus thirty years, and exposure records be preserved for thirty years, and analyses of exposure records for at least thirty years. The "regulation" was immediately challenged in the Fifth and D.C. Circuits by both AFL-CIO and United States Chamber of Commerce, as well as in the western District of Louisiana, which declined jurisdiction on the basis that the rule is actually a standard. *Louisiana Chemical Association v. Bingham*, 496 F. Supp. 1188, 8 OSHC 1950 (W.D. La. 1980).

i. *Fire Protection*

The OSHA Fire Protection standard, 29 CFR 1910.35–.38, .107–.109, .155–.165, was issued on September 12, 1980, and applies to all places of employment except for the maritime industry, construction, and agriculture. The standard features performance-oriented provisions with appendices furnishing various guidelines for employer compliance in achieving worker protection. Highlights of the new standard include requirements for the design and installation of portable and fixed fire suppression equipment, fire detection systems, and local fire and emergency alarm systems, recognition of the differences between incipient-stage firefighting hazards and advanced-interior structural firefighting hazards, where there is a greater need for personal protective equipment and training. Specifications for fire alarm testing requirements enhance the flexibility for combating small fires by reducing reliance on portable fire extinguishers and allowing instead a hose system and allowing the use of alternative employee alarm systems, such as blinking lights and touch systems in addition to audible systems.

j. *Other Standards*

Other health standards recently issued included dibromochloropropane (DBCP) and acrylonitrile, which were not challenged in judicial review. On November 28, 1978, almost 1,000 general and specific industry standards thought to cover remote or *de minimis* safety standards were revoked by OSHA.

Construction industry standards and those general industry standards that have been identified as applicable to construction were recently published together as part of OSHA's effort to develop a single, comprehensive set of regulations for construction sites. A proposed amendment of the electrical safety standards of Subpart S of Part 1910 is intended to substantially simplify and update, and also places relevant requirements of the National Electrical Code (NEC) directly into the text of the regulations, making it unnecessary for employers to refer to the NEC to determine their obligations and unnecessary to continue to incorporate the NEC by reference. OSHA has also indicated that it will reopen the record with respect to the noise standard (hearing conversation and engineering/administrative controls),

and has also initiated rule-making for a machinery and electrical safety-lock-out tagging standard, a marine terminal facilities standard, conveyors standard, floor and wall openings standard, grain handling facilities standard, tunnelling standard, low pitched roofs standard, confined spaces standard, ionizing radiation standard, and a standard on labeling and requiring of identification of hazardous or toxic chemicals in the workplace. Also, the beryllium standard was reported to be in the final stages.

The violations are listed in no particular order.

1910.309 National Electrical Code: Missing ground plugs, frayed or improperly spliced cords.

1910.219 Mechanical power transmission apparatus: Failure to guard belts, gears.

1910.157 Portable fire extinguishers: Improperly mounted or inaccessible extinguishers.

1910.212 General requirements for all machines: Missing guards to protect against nip points, rotating parts, flying chips or sparks.

1910.213 Woodworking machinery: Missing guards on saws.

1910.23 Guarding floor and wall openings and holes: No rails around or covers on pits; unprotected drops of four or more feet.

1910.22 General requirements—walking and working surfaces: Failure to keep work areas clean, orderly, and sanitary.

1910.215 Abrasive wheel machinery: Missing guards, or tool rests not adjusted to within 1/8 inch of wheel face.

1910.252 Welding, cutting, and brazing: Improper storage and handling of compressed gases.

1910.178 Powered industrial trucks: Lift trucks left running and unattended.

1910.265 Saw mills: Unguarded saws, equipment, open walkways along conveyors.

1910.37 Means of egress, general: Unmarked exits.

1910.106 Flammable and combustible liquids: Storing too much or uncovered containers of flammable or combustible material.

1910.141 Sanitation: Failure to provide a clean, sanitary wash place.

1910.107 Spray finishing using flammable or combustible liquids: Failure to post or observe "No Smoking" signs in paint spray areas.

1910.242 Hand and portable power tools and equipment—general: Missing guards.

1910.176 Handling materials—general: No marking of permanent aisles for fork lifts.

1910.36 General requirements, means of egress: Blocked or inadequate exits.

1910.179 Overhead and gantry cranes: No load capacity posted on crane.

1910.25 Portable wood ladders: Missing rungs, weak or wobbly legs, missing braces.

1910.95 Noise exposure: Noise in excess of 90 decibels on an eight-hour time-weighted average.

1910.151 Medical services and first aid: Missing or inadequate first aid kit.

1910.133 Eye and face protection: Failure to wear protective goggles where there is strong possibility of danger to the eyes from flying objects.

1910.132 Personal protective equipment—general: Missing hard hats where there is a danger of dropped items, striking against objects, or electrical shock.

1910.27 Fixed ladders: Rungs too widely spaced, too little clearance to sides or rear of ladder.

MOST FREQUENT OSHA VIOLATIONS

GENERAL REQUIREMENTS

SECTION	KEY WORD	1972 PAGE	1974 PAGE
1910.22 (a) (1)	Housekeeping	22108	23508
1910.22 (a) (2)	Clean, Dry Floors	22108	23508
1910.22 (a) (3)	Floor Maintenance	22108	23508
1910.22 (b)(1)	Aisles	22108	23508
1910.22 (b)(2)	Marking Aisles	22108	23508
1910.22 (c)	Guarding Pits, Tanks, etc.	22108	23508
1910.22 (d)(1)	Floor Loads	22108	23508

GUARDING FLOOR AND WALL OPENINGS AND HOLES

1910.23 (a)(5)	Guarding Floor Openings	22108	23508
1910.23 (a)(8)	Guarding Floor Holes	22108	23508
1910.23 (a)(9)	Guarding Floor Holes	22108	23509
1910.23 (b)(1)	Guarding Wall Openings	22108	23509
1910.23 (b)(3)	Guarding Wall Openings	22109	23509
1910.23 (c)(1)	Guardrails for Open-Sided Platforms	22109	23509
1910.23 (c)(3)	Guardrails and Toe Boards	22109	23509
1910.23 (d)(1)(ii)	Stair Railings	22109	23509
1910.23 (e)(3)(v)(b)	Standard Railing Strength	22109	23509

PORTABLE WOOD LADDERS

1910.25 (d)(1)(i)	Ladder Maintenance	22115	23515
1910.25 (d)(1)(x)	Defective Ladders	22116	23516
1910.25 (d)(2)(xix)	Nonslip Bases	22116	23516

MANUALLY PROPELLED MOBILE LADDER STANDS AND SCAFFOLDS (TOWERS)

1910.29 (f)(4)	Handrails	22129	23530

OTHER WORKING SURFACES

1910.30 (a)(2)	Portable Dock Boards	22129	23530

GENERAL REQUIREMENTS

1910.36 (b)(5)	Visibility Requirements	22130	23531
1910.36 (b)(6)	Illumination of Exits	22130	23531
1910.36 (b)(8)	Two Means of Egress	22130	23531
1910.36 (d)(1)	Exit Obstructions	22130	23531

MEANS OF EGRESS, GENERAL

1910.37 (f)(1)	Accessibility of Exits	22131	23532
1910.37 (k)(2)	Means of Egress Obstructed	22132	23532
1910.37 (q)(1)	"Not An Exit" Signs	22132	23533
1910.37 (s)	Two Remote Exits	22132	23533

OCCUPATIONAL HEALTH AND ENVIRONMENTAL CONTROL

1910.94 (b)(1)(vii)	Grinding, Polishing, Buffing Exhaust Systems	22146	23585
1910.94 (b)(2)(i)	Grinding, Polishing, Buffing Exhaust Hoods	22146	23585
1910.94 (d)(9)(vii)	Emergency Shower/Eye	22156	23595

SECTION	KEY WORD	1972 PAGE	1974 PAGE

OCCUPATIONAL NOISE EXPOSURE

1910.95 (b)	Noise Exposure - Administrative or Engineering Controls	22157	23596

FLAMMABLE AND COMBUSTIBLE LIQUIDS

1910.106 (b)(2)(i)(a)	Aboveground Tanks - Pressure Limitations	22171	23610
1910.106 (b)(2)(vii)(a)	Drainage or Dikes For Tank Areas	22173	23612
1910.106 (d)(2)(i)	Approved Storage Containers	22177	23616
1910.106 (d)(4)(iii)	Electrical Wiring and Equipment for Inside Storage Rooms	22177	23616
1910.106(d)(5)(i)	Storage Obstructing Exits	22178	23617
1910.106 (d)(7)(i)	Fire Control Devices in Storage Areas	22179	23618
1910.106 (e)(2)(iv)(a)	Covering Storage Containers	22180	23619
1910.106 (e)(6)(i)	Controlling Sources of Ignition	22180	23619
1910.106 (e)(9)(i)	Controlling Leavage/Spills	22182	23621
1910.106 (f)(6)	Prohibiting Use of Class I Liquids Near Ignition Source	22182	23621
1910.106 (g)(8)	Sources of Ignition - Service Stations	22185	23624

SPRAY FINISHING USING FLAMMABLE AND COMBUSTIBLE MATERIALS

1910.107 (b)(5)(i)	Spray Booth Air Velocity	22187	23626
1910.107 (b)(9)	Spray Booth - 3' Clearance	22188	23627
1910.107 (c)(2)	Spray Area 20' From Sparks/Open Flames	22188	23627
1910.107 (c)(6)	Spray Area - Explosion - Proof Electrical Equipment	22188	23627
1910.107 (d)(2)	Spray Area - Mechanical Ventilation	22188	23627
1910.107 (g)(3)	Disposal of Residues	22189	23628

DIP TANKS CONTAINING FLAMMABLE OR COMBUSTIBLE LIQUIDS

1910.108 (c)(6)	Dip Tank Conveyor Systems	22192	23631
1910.108 (e)(2)	Vapor Areas - 20' From Open Flame/Sparks	22192	23631

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1910.109 (c)(1)(iii)	25' Clearance Surrounding Magazines	22194	23635
1910.109 (c)(1)(vi)	Location of Class I Magazines	22194	23635
1910.109 (c)(2)(iii)	Explosive Signs Class I and II Magazines	22195	23636
1910.109 (c)(3)(iv)	Covering of Wood Surfaces - Magazine Exterior	22196	23637
1910.109 (c)(3)(ix)	Storage Restrictions - Wall Construction	22196	23637
1910.109 (c)(4)(iv)	Identifying Class II Magazines	22196	23637
1910.109 (c)(5)(i)	Storage of Explosive Packages	22196	23637
1910.109 (c)(5)(iv)	Housekeeping - Magazine Floors	22196	23637
1910.109 (d)(2)(iii)	Fire Extinguishers - Vehicles Transporting Explosives	22197	23637

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1910.133 (a)(1)	Provide and Enforce Use	22231	23670
RESPIRATORY PROTECTION			
1910.134 (a)(1)	Engineering Controls - Contaminants	22231	23670
1910.134 (a)(2)	Respiratory Protective Programs	22231	23670
1910.134 (b)(1)	Written Procedures	22231	23670
1910.134 (b)(2)	Providing Proper Type	22231	23670
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1910.141(a)(1)(i)	Housekeeping/General Sanitation	22234	23673
1910.141(a)(1)(iv)	Defective Floors	22234	23673
1910.141(b)(1)(ii)	Drinking Fountains	22234	23673
1910.141(c)(1)(iii)	Water Closets	22234	23673
1910.141(c)(2)(i)	Toilet Compartments	22235	23674
1910.141(d)(2)	Lavatory Requirements	22235	23674
1910.141(g)(2)	Covered Receptacles/Waste Food	22235	23674
1910.141(g)(1)	Lunchroom Requirements	22235	23675
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1910.145 (f)(3)(iii)	"Do Not Start" Tags	22241	23680
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1910.151(c)	Emergency Eye Wash/Shower	22242	23681
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1910.157(a)(1)	Operable/In Place	22243	23682
1910.157(a)(2)	Accessibility	22243	23682
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1910.157(d)(3)(iv)	Maintenance Tags	22245	23684
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1910.158(b)(1)	Proper Location	22245	23684
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1910.178(q)(1)	Removing Unsafe Trucks From Service	22258	23697
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1910.179(g)(1)(v)	Construction/Marking of Control Zones	22261	23700
1910.179(h)(2)(iii)(a)	Two Wraps of Rope On Hoisting Drum	22261	23700
1910.179(j)(2)(iv)	Inspection Requirements/Chains	22262	23701
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1910.179(l)(3)(iii)(b)	Defective Chain/Rope Slings	22262	23701
1910.179(m)(1)	Monthly Rope Inspection/ Signed Report	22263	23702
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1910.213(i)(1)	Bandsaw Blade Guarding	22275	23714
1910.213(p)(4)	Nippoint Guard-Belt Sanders	22276	23715
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Best Available Document

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SECTION	KEY WORD	1972 PAGE	1974 PAGE
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1910.252(a)(5)(v)(f)	Replacement of Defective Hoses	22301	23740
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1910.252(c)(6)	Inspection Records	22307	23746
1910.252(e)(2)(iii)	Welding Booths/Screens	22309	23748
1910.252(e)(3)(i)	Protective Equipment/Exposed Employees	22309	23748
ELECTRICAL			
1910.308 & 1910.309 (a) N.E.C., NFPA 70-1971 Article 110-14 (b)	Suitable Splicing Devices	22342 (70-15)	23783
1910.308 & 1910.309(a) NEC, NFPA 70-1971 Article 110-17 (a)	Guarding Live Parts (+50 V.)	22342 (70-16)	23783
1910.308 & 1910.309 (a) N.E.C., NFPA 70-1971 Article 110-17 (b)	Guard Electric Equipment From Physical Damage	22342 (70-17)	23783
1910.308 &1910.309 (a) N.E.C., NFPA 70-1971 Article 250-5 (a)	Grounding AC Circuits (-50V.)	22342 (70-68)	23783
1910.308 & 1910.309 (a) N.E.C., NFPA 70-1971 Article 250-5 (b)	Grounding AC Circuits (+50V.)	22342 (70-68) (-69)	23783
1910.308 & 1910.309(a) N.E.C., NFPA 70-1971 Article 250-42 (a)	Grounding Exposed Non-Current Carrying Metal Parts (Fixed Equipment)	22342 (70-72)	23783
1910.308 & 1910.309 (a) N.E.C., NFPA 70-1971 Article 250-45	Grounding Exposed Noncurrent Carrying Metal Parts (Cord and Plug Equipment)	22342 (70-73)	23783
1910.308 & 1910.309 (a) N.E.C., NFPA 70-1971 Article 250-51	Impedance/Carrying Capacity - Path To Ground From Circuits	22342 (70-74)	23783
1910.308 & 1910.309 (a) N.E.C., NFPA 70-1971 Article 400-4	Restriction on Use Of Flexible Cord	22342 (70-184)	23783
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RECORDKEEPING REQUIREMENTS			
1902.2 (a)	Poster	XI-9 Compliance Manual	
1904.2(a)	Maintaining Log	XI-10 Compliance Manual	
1904.4	Maintaining Supplementary Record	XI-10 Compliance Manual	

Best Available Document

Suggested Inspection and Responsibility Lists within a Company to Comply with Law (USA)

Area	Requirements
Common areas	
Abrasive wheel mountings	Inspected by user, before use
Abrasive wheel mountings	Ring tests before mounting
Air receivers, safety valves	Tested regularly
Automatic sprinklers	Located so readily accessible for inspection
Automatic sprinklers	Inspected periodically
Band saws	Inspected monthly
Belts, lacings, fastenings	"Inspected"
CO_2 extinguishing systems	Inspected annually
Compressed-gas cylinders	Tested as required by DOT
Compressed-gas cylinders	Inspected (see law for details)
Compressed-gas tanks	Inspected (see law for details)
Derricks	Inspected regularly (see law for details)
Derrick ropes	Inspected monthly
Diptank facilities	Inspected periodically
Explosive actuated fasteners	Inspected by user before using
Explosive actuated fasteners	Inspected regularly
Eye protection	Tested in accord with ANSI
Fire extinguishers	Tested in accord with NFPA
Fire extinguishers	Inspected monthly
Fire extinguishers	Examined and recharged yearly
Fire extinguishers	Hydrostatic tests
Fire alarms and protection systems	Tested weekly
Fire alarms (local)	Inspected weekly
Fixed dry-chemical extinguishers systems	Inspected annually
Fixed ladders	Inspect regularly
Flammables—fire protection systems	Inspect periodically
Flywheels and hangers	Inspect periodically
Forging machines	Inspect periodically and regularly
Forging tongs	Checked periodically
Industrial trucks	Examined before service and after each shift
Ionizing radiation dosage	Surveys "as necessary"
Ionizing radiation dosage	Checked periodically
Jacks	Inspections depending on conditions
Locomotive and truck cranes	Inspected periodically (see law)
Locomotive and truck cranes, ropes	Inspected monthly
Metal ladders	Inspect periodically (see law)
Metal ladders	Inspect after unusual events
Noise	Determine noise levels
Overhead and gantry cranes	Inspected periodically (see law)
Overhead and gantry cranes, ropes	Inspected monthly
Power presses	Inspected periodically and regularly.
Pulleys, cast iron	Tested frequently with a hammer
Pulleys, split	Inspected
Respirators	Inspected before and after each use
Respirators, self-contained	Inspected monthly
Respirators	Inspected during cleaning
Respirators	Inspected to determine proper effectiveness
Respirators—air supplied—containers	Tested in accord with DOT
Respirators—air supplied	Air tested "frequently" for CO
Respirators	Inspected to determine usage
Respirators	Inspected on fit by wearer
Respirators	Inspected for defects
Spray finishing—pressure hose and couplings	Inspected at regular intervals
Standpipe and hose systems	Hydrostatic test
Standpipe and hose systems	Periodic inspection
Standpipe and hose systems, valves	Examined for tightness
Welding	Various inspections (see law)
Welding near flammables	Inspect at start
Wood ladders	Inspect prior to painting
Wood ladders	Inspect frequently
Woodworking machinery	Inspect

Area	Requirements
Special areas	
Abrasive blasting	Baffle inspection regularly
Abrasive blasting	Exhaust inspection (by ANSI standard)
Acetylene generators	Tested in accord with CGA
Anhydrous ammonia containers	Tested to DOT specifications
Anhydrous ammonia containers	Before reuse—hydrostatic test
Anhydrous ammonia, refrigerated storage	Field fab—inspect
Asbestos	Monitoring and personnel monitoring
Bakery equipment, dough brakes	Check stop bars (thirty days)
Bakery equipment, ovens	Inspect twice a month (see law)
Cooperage machinery	Inspect
Explosives—transporting	Shall be inspected (see law)
Explosives—water cel mixing equipment	Daily visual inspection
Flammable liquids—piping	Inspections "suitable for pressures"
Flammable liquids—bulk plants	Pumps—yearly test
Flammable liquids—bulk plants	Hoses—inspected at "appropriate" intervals
Flammables—processing plants (fire protection)	Inspected periodically
Flammable tank storage	Tested before use (ASME)
Hydrogen (gaseous) systems	Inspected periodically (ASME Code)
Hydrogen (liquid) systems	Inspected periodically (DOT Tested)
Interior hanging scaffolds	Inspect before erection
LP gas containers	Tested to ASME specifications
LP gas piping, etc.	Tested with manometer
Laundry machinery, extractors	Inspected annually
Mason's adjustable scaffold	Inspect before installation
Manlifts	Every thirty days (see law)
Open-surface tanks	Hood and duct inspection (thirty days)
Oxygen, bulk	Inspected periodically (ASME)
Power platforms, Type F	With each rope renewal
Power platforms, exterior building	Every thirty days (see law)
Pulp and paper industry	Varies (see law)
Pulpwood logging	Varies (see law)
Single-point suspension scaffolds	Every thirty days
Service stations—flammable dispensing	Tested each five years
Service stations—LP gas uses	Tested
Sawmills	Various (see law)
Swinging scaffolds	Inspect before use and periodic
Tanks	Inspect for O_2 before cleaning
Textile industry	Inspect "all guards" (see law)
Tubular welded, frame scaffold	Inspect periodically
Ventilation systems	Inspect regularly

Required*	Checked by				Checked on					
Abrasive wheel mountings										
Abrasive wheel mountings										
Air receivers, safety valves										
Automatic sprinklers										
Automatic sprinklers										
Band saws										
Belts, lacings, fastenings										
CO_2 extinguishing systems										
Compressed gas cylinders										
Compressed gas cylinders										
Compressed gas tanks										
Derricks										
Derrick ropes										
Dip tank facilities										
Explosive actuated fasteners										
Explosive actuated fasteners										
Eye protection										
Fire extinguishers										
Fire extinguishers										
Fire extinguishers										
Fire extinguishers										
Fire alarms and protection systems										
Fire alarms (local)										
Fixed dry chemical extinguisher systems										
Fixed ladders										
Flammables—fire protection systems										
Flywheels and hangers										
Forging machines										
Forging tongs										
Industrial trucks										
Ionizing radiation dosage										
Ionizing radiation dosage										
Jacks										
Spray finishing—pressure hose and couplings										
Standpipe and hose systems										
Standpipe and hose systems										
Standpipe and hose systems, valves										
Welding										
Welding near flammables										
Wood ladders										
Wood ladders										
Woodworking machinery										

*Include those applicable

Requirement area	What's required
Common areas	
Automatic sprinklers	Connection markings (see details in law)
Derricks and cranes	Rated loads marked
Diptanks (if flammable)	No-smoking signs
Drying operation	Warning signs
Exits	Illuminated signs (6-inch letters)
Fire extinguishers	Marking—intended use and charge
Flammable (aerosol)	Shall be "labeled"
Floor loads	Plates of "approved designs"
Industrial trucks (powered)	ANSI approval signs and capacity
Ladders (defective wood)	Tagged "Danger Do Not Use"
Ladders (defective metal)	To be "marked"
Radial saw (wood)	Danger signs, blade direction, etc.
Respirators	Marked to whom assigned
Respirator canisters	Marked (see details in law)
Spray-finishing operations	No-smoking signs
Standpipes and hose systems	Marked "Fire Dept. Use"
Storage (indoor general)	Alarms, no-smoking signs
Welding—gas cylinders	Content markings
Welding—gas cylinders storage	Danger signs
Welding—gas cylinders leaking-fuse plugs	Warnings
Welding—manifolds	A sign (see law for details)
Welding—O_2 gas systems	Marked in accord with ANSI
Welding—O_2 gas systems regulators	Marked "Use No Oil"
Welding—acetylene generators	Marked (see law)
Welding—after completed	Warning sign for hot metal
Welding—filler metals, etc.	Caution signs
Special areas	
Asbestos exposures	Many requirements—see the law
Automobile undercoating	No-smoking signs
Anhydrous ammonia uses	See law for details
Bakeries	Ceiling height signs
Explosives uses	See law for details (many required)
Flammable bulk plants	No-smoking signs
Flammable storage tanks	Flood emergency instructions posted
Hydrogen explosives	See law
Jacks	Tags for "Out of Order"
Lawn mowers	Caution signs
Logging	Many—see the law
LP gasses	Many—see the law
Man lifts	Many—see the law
Mills and calanders	Audible alarms
Nonpotable water	Warnings
Organic peroxides	No-smoking signs
Oxygen (bulk use)	Many—see the law
Pesticides	Many—see the law
Power platforms	Load rating plate
Pulp and paper industry	Many—see the law
Power-press dies	Stamped and indicate tonnage, stroke, die weight
Radiation	Many—see the law
Sawmills	Many—see the law
Service station	No-smoking signs

Required *	Checked by	Checked on
Automatic sprinkler markings		
Crane loads		
Dip tank no smoking signs		
Drying oven warnings		
Exit signs		
Fire extinguisher markings and tags		
Flammable labelings		
Floor load plates		
Fork trucks signs and capacities		
Ladders (defective)		
Wood saw signs		
Respirator markings		
Respirator canister markings		
Spray finishing no smoking signs		
Standpipe, hose markings		
Storage — alarms, no smoking		
Welding signs		
*Add special signs that apply		

Area	Requirement
Anhydrous ammonia	Unloading must be "authorized"
Medical supplies	Authorized by a physician
Powered industrial trucks	Operators must be authorized
Respirators	Users must be determined to be physically able by a physician and reviewed annually
Scaffolds (tube and coupler—tubular welded)	Designed by a registered PE
Welding near flammables	Permitted only under "supervision"
Welding in flammable processing plants	Permitted only under "supervision"

FIGURE 7-8 Authorizations.

Area	Requirements
Cranes (all kinds)	SOP when used for a lift
Cyanide use	Special precaution must be established
Explosives	SOP on transportation
Respirator	SOP governing selection and use

FIGURE 7-9 Standard operating procedures.

Eye protection	Where there is a hazard (ANSI standard)
Respirators	Where above threshold (see law) (BM approved)
Head protection	Where a hazard exists (ANSI standard)
Ear protection	When sound levels exceed table in law
Abrasive blasting	See law
Entering tanks	See law
Welding	See law
Special industries	See law
Pulp and paper	
Textiles	
Bakeries	
Laundries	
Sawmills	
Logging	
Agriculture	
Face protection	Where a hazard (ANSI standard)

Walking and Working Surfaces

This section of the standard sets forth rules and regulations concerning minimum requirements for the purchase, construction, operation, inspection and maintenance of both permanent and temporary facilities used for access to/or serving as working or walking surfaces.

A. General

OSHA	YOU SHOULD
All places of employment, passageways, storerooms and service rooms shall be kept clean and orderly and in a sanitary condition.	Make sure that your area is clean and neat at all times.
	Insist that all stock is to be stacked neatly and all waste materials be placed in containers and removed when needed.
Floors will be clean and dry.	
Floors will be free from protruding nails, splinters, holes, and loose boards.	Make sure that floors are swept when needed and all spills (oil, water, etc.) wiped up immediately.
When mechanical handling equipment is used—sufficient safe clearances should be allowed.	Inspect the floors, walls and pillars for loose wires, nails, etc.
	Make sure that the aisles where hand trucks are used are free from any materials that may cause a hazard.

B. Floor & Wall Openings

Temporary openings may have temporary barricades.	Make sure wherever you have an open hole in a floor located in your area, it is guarded. If the opening is temporary a barricade must be placed around it—if it is permanent you must have a railing *constructed* around it.
Permanent openings should have permanent guard rails.	
Hand rails are needed in all permanent steps.	Make sure that the hand rails on all steps in the plant are in good order.
Toe boards needed in all stairs above 4'.	
Any stairway with four or more risers shall have hand railings.	Make sure that all wall openings are guarded so that no employee may accidentally fall into them.

OSHA	YOU
All wall openings, a cut-out area at least 30" H × 18" W, must have protection to make sure that employees do not fall into them. A wall opening could be a ventilation shaft, trash chute, etc.	

C. Portable Wood Ladders

The standards for sectional ladders are a maximum of 60' in length when extended; rung size of at least 1⅛"; the sides of the ladder having a depth of 3¾".	It's management's responsibility to make sure that the ladders you use are of an approved type, however, you are responsible for making sure they:

Care and inspection of wooden ladders.
Management:

1. shall maintain all ladders in good condition.
2. Shall replace safety feet if defective.
3. should store all ladders so they are easily inspected.
4. should make sure that wood ladders are stored out of the elements.
5. should make sure that ladders are stored to prevent sags.
6. should paint all wooden ladders.
7. should dispose of defective ladders.

1. are used correctly. (The right ladder for the right job.)
2. are stored properly.
3. are not broken or cracked.
4. have their "safety feet" intact.
5. are free of grease.
6. look neat and clean.

D. Portable Metal Ladders

Sectional ladders may be 48' to 60' long but must have an overlap of 5' in the middle.

Ladders (platform type) may be no longer than 20'.

The three most important things for the supervisor to check in the use of metal ladders are:

1. Are the "safety feet" in place?
2. Are the rungs clean and free from slippery materials?
3. Are there any bends (or "chinks") in the ladder that may weaken it?

You must insist that the floor is clean and free from oil, etc., where the ladder will be placed.

A platform ladder may never be leaned against anything—it must be opened before use.

E. Scaffolding

It is management's responsibility to provide proper scaffolding.	Once the scaffolding is in place, you must make sure that the platform is used the way it was intended to be used and that no "horseplay" happens on or around the scaffolding.
	You should make sure that barricades are placed around all scaffolding to protect people from walking under it.

The regulations are far more detailed than you have read above but if you have a special question concerning a walking surface or climbing apparatus, check with your safety representative at the plant for proper and safe procedures.

Occupational Health and Environmental Control

This is probably the most complex and confusing of the standards because it deals primarily with toxicity levels, noise levels and other specific data about materials that may cause occupational diseases or other hazards that may affect the employee, either temporarily or permanently.

This section of the code relates heavily to many highly toxic or explosive substances such as hydrogen, acetylene, and combustible liquids. Attention should be brought to the safety/personnel manager if you are using types of materials that you think may be hazardous in order that he can be sure that this section of the standard is being properly fulfilled.

A. Ventilation

OSHA	YOU SHOULD
Exhaust ventilation systems must be provided to produce maximum protection against air borne dusts, flammable or explosive vapors, or potentially toxic substances. If the environment cannot be controlled by engineering, the employee must be provided with personal protective equipment.	1. Make sure that all ventilation systems are spot checked periodically to see if they're working and the filters are clean. 2. Check all dust collectors and change filters frequently; all hoses must be in good repair. 3. Enforce the rule that respirators of an approved type are to be worn while in the environment where spraying, blasting, etc. take places when required. 4. If there seems to be a high accumulation of a gas or an undesirable odor in your area—check it out. Report all gas or liquid leaks as soon as they are detected. 5. Know the characteristics of the solvents, cleaners, etc. in your department. 6. Be sure that all employees in your area are instructed as to what to do in case of an emergency, especially if they are working with materials that may explode. Your subordinates should know: a. which fire extinguisher to use and how to use it b. areas of egress (how to get out of his work place) c. who to call and how to alert them in case of a fire. 7. You should make sure that all solvents, etc. are in approved type cans with self closing lids and properly labeled.

B. Hazardous Materials

In conjunction with the environmental control, this section is primarily devoted to the materials that will deflagrate or burn, giving off toxic or other undesirable effects and their containers; not the toxic qualities of them.

The section about compressed gases is a special section. The supervisor should be aware of what the properties of the gases are, how they will act under pressure and stress, in heat, etc.

OSHA	YOU SHOULD
This section specifically deals with: 1. Gas cylinders and compressed gases 2. Safety valves 3. Acetylene 4. Hydrogen 5. Oxygen 6. Nitrous oxide 7. Flammable and combustible liquids 8. Dip tanks 9. Explosives and blasting 10. Ammonium nitral agents 11. L. P. gases 12. Anhydrous ammonia	Be familiar with the dangers of all potentially dangerous materials used in your area. (Especially those under pressure.) Be sure that all compressed gas cylinders are secured in place with a chain or cable and cannot tip over. Check each container and pipe line in your area for cracks, dents or any other signs of weakness in the containers. Teach your subordinates to respect the materials they use—not fear them. Make sure that each container is properly marked.

Personal Protective Equipment

This part deals with most equipment needed to protect employees from potential hazards that cannot be engineered out of an operation.

OSHA	YOU
This section covers: 1) head, eye, and face protection; 2) respiratory protection; 3) foot protection; and 4) protective clothing for protection against electricity. It is the responsibility of management to purchase proper protective equipment for the people in the plant.	It is the responsibility of the supervisor: To make sure that *everyone* wears equipment in his area. To inform the Personnel/Safety Manager of the original or additional need for glasses, shoes, aprons, masks, etc. in your area. (In some locations this is done through the nurse.) To make sure that if the employee buys his own equipment the Safety Manager checks it to see if it is of an approved type. To make sure that: 1. Glasses are not scratched, broken, etc. 2. The equipment is comfortable (man will not wear otherwise). 3. All equipment is clean and neat. 4. The protection equipment is in operable condition, masks disinfected, etc. 5. Repair is done properly on protective equipment.

General Environmental Controls

This section is devoted to protecting the worker from unsafe and unhealthy conditions arising from the general environment.

OSHA	YOU SHOULD
Such topics as: 1) sanitation: 2) color codes; 3) signs and tags showing physical hazards are some of the general items covered.	Keep your area clean and neat at all times. Set the example of keeping the work area, lunch room and toilet facilities clean.

The general classifications for coding are:

Red—fire protection equipment and apparatus—danger—stop.

Orange—designated for dangerous parts of machines.

Yellow—caution (against striking against or getting caught in).

Green—safety and first aid equipment.

Blue—warning against storing or moving of equipment under repair.

Purple—radiation.

Black and White—traffic and housekeeping.

No food is allowed to be eaten in the areas where toxic materials are present.

Many demands are placed upon management to have a clean and healthy environment for its employees. Some of the areas covered are:

1. Good housekeeping
2. Proper waste disposal
3. Adequate rodent, insect control
4. Proper toilet facilities
5. Etc.

Know that no spitting (specifically) is allowed; except in approved containers.

All refuse shall be removed at least daily, more if needed.

Rodent and insect control must be practiced—if pests are in the work area the supervisor should alert the management.

No "common drinking cups" are allowed.

The supervisor should check the toilet facilities once daily; if cleaning is needed, maintenance should be contacted.

All signs (warning—watch your st , etc.) must be readable.

You should be aware of the general color coding and what each means.

Medical and First Aid

This section deals with the basics of first aid and the administration of first aid in the plant.

OSHA	YOU SHOULD
Management must be certain that the health of the employees will be adequately protected by providing available emergency medical facilities.	It is your responsibility to make sure that if one of your subordinates gets hurt (regardless of how minor) he goes to first aid and gets attention *as soon after the incident as possible.* (Even the most minor incidents, slivers, foreign bodies in eyes, etc., may be serious injuries if not taken care of immediately.) As soon as practical, the supervisor should fill out the Foreman's Injury Report (Brunswick #2900.71) completely. If the employee is available, he should be questioned as to how the incident could be prevented.

Fire Protection

This section is to ensure that protection is provided to fight small fires only and also to clarify what type of equipment and systems be installed in a work place.

OSHA	YOU SHOULD
Covered in this section is the use and maintenance of: 1. portable extinguishers 2. standpipe and hose systems 3. sprinkler systems; and 4. the storage of materials	The supervisor should be thoroughly checked out and able to operate all fire fighting devices in his department. The foreman should be aware of the different types of fires that may occur in his area and instruct his employees (at least every 6 months) how to fight all types of fires in the area. The supervisor should spot check the extinguishers in the area periodically to make sure that they have not been tampered with and that the content of the extinguisher has not been used.

Compressed Gas and Air Systems

This section deals with problems or potential hazards that may occur from the rupture or explosion of pressure vessels, which include cylinders, portable tanks and compressed air receivers. Testing, inspection of tanks and the codes dealing with the safety relief valves are cited.

OSHA	YOU SHOULD
Management's responsibility dictated by this section covers requirements for inspection testing and examination of cylinders and the installation of safety relief devices on cylinders, tanks and air receivers.	Report all: 1. Dents in cylinders 2. Cuts or gouges in cylinders 3. Corrosion or pitting of the cylinder 4. Cylinder necks that have "hairline" cracks 5. All cylinders that are not stored in dry, clean area. Make sure that employees do not use compressed air to clean their skin or clothing. Know that no more than 30 P.S.I. (at the nozzle head) is allowed for cleaning of machines or parts.

Material Handling and Storage

This section deals with the potential dangers involved with the manual and mechanical handling of materials and the storage of all items.

OSHA	YOU SHOULD
Industrial truck, mechanical equipment, overhead and gantry cranes, derricks, etc., are covered in this section. OSHA has definite specific standards that are applicable to each of the aforementioned devices. Management should provide safe equipment with which their employees are expected to work.	Make sure that all aisles are clear where lift trucks are to be used. See that the storage of materials should not in itself create a hazard. Insist that all open pits, vats, ditches, etc. be guarded. Know that some of the regulations for power trucks are: 1. Overhead guards must be in place at all times with "high lift" trucks. 2. Only trained-authorized operators can operate lifts. 3. No man may stand or pass under a suspended load. 4. No riders are allowed. 5. No passing of other trucks (unless other truck has stopped). 6. No speeding or horseplay. 7. No fuel oil spills should be visible on truck. 8. Trucks should be clean.

9. If trucks seem excessively noisy, they should be reported.

Request that all defective tools be removed from service.

Inspect portable grinding wheels regularly.

See that power tools should be unplugged when the operator is not there and that all hand tools are stored in a safe place.

Welding, Cutting and Brazing

The purpose of this section is to enable management to prevent injury and/or illness, and protection of property from fire because of welding, cutting and brazing operations.

OSHA	YOU SHOULD
The section is detailed and rather specific as to modes of operation regarding all types of cutting and welding procedures. If your section is involved with regular welding cutting processes you should read this section carefully.	Be acutely aware of all the hazards involved in operations connected with welding operations. Be alert to the accumulation of toxic gases or odors that may lead to potential hazards to the employee. Ensure that if one of your employees is injured, he is accompanied to first aid and that the attending nurse/physician knows what he was exposed to. Check the welding equipment to make sure it is in perfect working order at all times. 1. Make sure that the tanks are in good shape and secured properly. 2. Make sure that all electrical equipment is in good working order. 3. Make sure that all acetylene equipment is clean, free from oil and in good working order.

Machinery and Machine Guarding

This section ensures that protection is provided for every machine at the point of operation and/or power transmission.

Most machines and grinders can be made safe through engineering which may protect the employee against hazards.

If you think that a machine should be guarded better than it already is, you should contact your safety manager. (All moving parts should be covered.)

OSHA	YOU SHOULD
Woodworking machinery, machine guarding, abrasive wheels, mills and calendars in rubber and plastics, power press, hot metal stamping and mechanical transmission apparatus are covered in this section.	All existing guards should be in place at all times when a machine is in operation. Machines should be *"locked out"* when work is being done on them.

Head and Portable Powered Tools and Equipment

This section deals with the protection of the employees at the point of operation for various types of hand held tools and equipment.

OSHA	YOU SHOULD
Tools involved in this section of the code are circular (portable) saws, abrasive wheels, explosive activated fastening tools, power lawn mowers, air machinery, etc.	Make sure that no employee should be allowed to use unsafe power tools. Inspect power cords to ensure that the tool is grounded, which will prevent electrical shock. See that the correct tool is used for each job. Make sure that all guards on portable power tools are in place. Ensure that any employee who uses a portable power tool wear safety glasses with shields if necessary.

Electrical

This is designed to protect personnel against unwanted exposure to electrical current. It provides guidelines for installation, maintenance and use of electrical installations and the utilization of electrical installations and the utilization of equipment.

OSHA	YOU SHOULD
The subpart is divided into 13 sections which treat: General requirements; overcurrent protection (fuses, etc.); grounding; outlets; junction boxes, etc; flexible cords; transformers; appliances, hazardous locations. Coverage is limited in general to building installations and services and specifically excluded is coverage for transportation (vehicles), underground mines, electric railroads, communications utilities and electric utilities. The National Electrical Code adopted by reference.	Protect your employees against electrical hazards. Some of the things you should be constantly aware of are: 1. Is all of the equipment used in your area properly grounded. 2. Make sure there are no exposed electrical connections that people can get shocks from. 3. Never allow your employees to do electrical maintenance work that should be done by a person familiar with the hazards of working with electricity.

ELECTRICITY IS TO BE RESPECTED
NOT FEARED

Recordkeeping

OSHA	YOU
Each facility is required to keep an accurate set of records, post the yearly summary for all employees to see and to submit upon request all such records to the Secretary of Labor. Every serious or reportable injury must be recorded (logged) within 48 hours after it has been reported.	Each supervisor must fill out and submit to the personnel/safety representative a standard foreman's report of injury form as soon as practical after any of his employees reports any injury—*even if that employee does not go to the doctor.* You should investigate each incident and determine how it could have been avoided—this is very important in "curbing" major accidents before they occur.

EDITOR'S NOTE: The cartoons that illustrated the *Foreman's Guide to OSHA* have been eliminated here because of space limitations. The guide was prepared by Gale H. Holbrook, safety engineer. It is used extensively by Brunswick safety personnel in the field. In addition, Brunswick has a booklet explaining the OSHA record-keeping requirements.

Checklist for Company Complying with Law Re Standards --

OSHA Rules and Regulations - Standards

SUBPART D:

Walking and Working Surfaces - this section of the standards sets forth the rules and regulations concerning minimum requirements for the purchase, construction, operation, inspection and maintenance of both permanent and temporary facilities used for access to/or serving as working or walking surfaces.

OSHA	FOREMAN SHOULD
A. General	
All places of employment, passageways, storerooms and service rooms shall be kept clean and orderly and in a sanitary condition.	Make sure that your area is clean and neat at all times.
Floors will be clean.	Insist that all stock is to be stacked neatly and all waste materials be placed in containers and removed when needed.
Floors will be free from protruding nails, splinters, holes and loose boards.	Make sure that floors are swept when needed and all spills (oil, etc.) wiped up immediately.
When mechanical handling equipment is used, sufficient safe clearance should be allowed.	Inspect the floors, walls and pillars for loose wires, nails, uncoiled hoses, etc.
	Make sure that the aisles where industrial trucks are used are free from any materials that may cause a hazard.
B. Floor & Wall Openings	
Temporary openings may have temporary barricades.	Make sure wherever you have an open hole in a floor located in your area, it is guarded. If the opening is temporary, a barricade must be placed around it -- if it is permanent, you must have a railing constructed around it or covered.
Permanent openings should have permanent guard rails or covers.	
Hand rails are needed in all permanent steps.	Make sure that the hand rails on all steps in the plant are in good order.
Toe boards needed in all stairs above 4'.	
Any stairway with four or more risers shall have standard hand railings or standard stair railing.	Make sure that all wall openings are guarded so that no employee may accidentally fall into them.

SUBPART D - Continued:

OSHA	FOREMAN SHOULD
All wall openings and holes must have protection to make sure that employees do not fall into them. A wall opening could be a ventilation shaft, product or material chute, chain drops, etc.	
C. Portable Wood Ladders	
The standards for sectional ladders are a maximum of 30' in length when extended; rung size of at least 1-5/8"; the sides of the ladder having a depth of 3-3/4".	Make sure that the ladders you use are of an approved type; however, you are responsible for making sure they:
Care and inspection of wooden ladders. Management:	1. are used correctly. (The right ladder for the right job.)
1. shall maintain all ladders in good condition.	2. are stored properly.
2. shall replace safety feet if defective.	3. are not broken or cracked.
3. should store all ladders so they are easily inspected.	4. have their "safety feet" intact.
4. should make sure that wood ladders are stored out of the elements.	5. are free of grease.
5. should make sure that ladders are stored to prevent sags.	6. look neat and clean.
6. should dispose of defective ladders.	
D. Portable Metal Ladders	
Sectional ladders may be 48' to 60' long, but must have an overlap of 5' in the middle.	The three most important things for the foreman to check in the use of metal ladders are:
Ladders (platform type) may be no longer than 20'.	1. Are the "safety feet" in place?
	2. Are the rungs clean and free from slippery materials?
	3. Are there any bends in the ladder that may weaken it?

SUBPART D - Continued:

OSHA	FOREMAN SHOULD
D. Continued	You must insist that the floor is clean and free from oil, etc. where the ladder will be placed. A platform ladder may never be leaned against anything - it must be opened before use.
E. Scaffolding	
Scaffolds shall be furnished and erected in accordance with Sec. 1910.28 of Subpart D for persons engaged in work that cannot be done safety from the ground or from solid construction.	Once the scaffolding is in place, you must make sure that the platform is used the way it was intended to be used and that no "horseplay" happens on or around the scaffolding. You should make sure that barricades are placed around all scaffolding to protect people from walking under it.

The regulations are far more detailed than you have read above, but if you have a special question concerning a walking surface or climbing appartus, check with your safety representative for proper and safe procedure.

OSHA Rules and Regulations - Standards

SUBPART E:

Means of Egress - As used in this subpart, Means of Egress is a continuous and unobstructed way of exit travel from any point in a building or structure to a public way and consists of three separate and distinct parts: the way of exit access, the exit, and the way of exit discharge.

OSHA	FOREMAN SHOULD
Management must make certain that every building or structure is provided with exits sufficient to permit the prompt escape of occupants in case of fire or other emergency. In every building or structure, exits shall be so arranged and maintained as to provide free and unobstructed egress from all parts of the building or structure. Every exit shall be clearly visible. All exits shall discharge directly to the street, or to a yard, or other open space that gives safe access to a public way.	The most important things to check are: 1. Location of exit signs, particularly direction signs from interior rooms. 2. That every exit and directional sign be so arranged that the way to a place of safety outside is unmistakable.

SUBPART G:

Occupational Health and Environmental Controls - This section is probably the most complex and confusing of the standards because it deals primarily with toxicity levels, noise levels and other specific data about materials that may cause occupational diseases or other hazards that may affect the employee, either temporarily or permanently.

This section of the code relates heavily to many toxic or explosive substances such as hydrogen, acetylene and combustible liquids (vapors). Attention should be brought to the Safety Director if you are using types of material that you think may be hazardous in order that he can be sure that this section of the standard is being properly fulfilled.

OSHA	FOREMAN SHOULD
A. Ventilation Exhaust ventilation systems must be provided to produce maximum protection against air born dusts, flammable or explosive vapors, or potentially toxic substances. If the environment cannot be controlled by engineering, the employee must be provided with personal protective equipment such as: Particulate-filter respirator Heavy canvas or leather gloves Aprons Safety shoes Eye protectors Abrasive-blasting respirators	1. Make sure that all ventilation systems are spot checked periodically to see if they're working and the filters are clean. 2. Check all dust collectors and change filters frequently; all hoses must be in good repair. 3. Enforce the rule that respirators of an approved type are to be worn while in the environment where spraying, blasting, etc., take place when required. 4. If there seems to be a high accumulation of a gas or undesirable odor in your area, check it out. Report all gas or liquid leaks as soon as they are detected. 5. Know the characteristics of the solvents, cleaners, etc. in your department. 6. Be sure that all employees in your area are instructed as to what to do in case of an emergency, especially if they are working with materials that may explode. Your subordinates should know:

SUBPART G - Continued:

OSHA

FOREMAN SHOULD

a. which fire extinguisher to use and how to use it.

b. areas of egress (how to get out of his workplace).

c. who to call and how to alert them in case of a fire.

7. You should make sure that all solvents, etc., are in approve type cans with self-closing li and properly labeled.

B. Occupational Noise Exposure

In all cases where the sound levels exceed the values shown herein, a continuing effective hearing conservation program shall be administered.

Duration Per Day, Hours	Sound Level dba Slow Response
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
¾	110
¼ or less	115

Make sure that intake and exhaust mufflers are replaced when worn out.

Monitor department maintenance program for:

1. replacement or adjustment of worn and loose or unbalanced parts of machines.
2. machine lubrication.
3. installation of support bearings.
4. chain and belt drives.
5. loose housing - metal vibration.

Ensure that affected employees are wearing hearing protectors on jobs that have been cited for excessive noise levels by Compliance Officers.

Be familiar with Company voluntary hearing protection policy guidelines.

OSHA Rules and Regulations - Standards

SUBPART H:

Hazardous Material - In conjunction with the environmental control, this section is primarily devoted to the materials that will deflagrate or burn, giving off toxic or other undesirable effects and their containers; not the toxic qualities of them.

The section about compressed gases is a special section. The supervisor should be aware of the kinds of gases in his department and what the properties of the gases are, how they will act under pressure and stress, in heat, etc.

OSHA	FOREMAN SHOULD
This section specifically deals with: 1. Gas cylinders and compressed gases. 2. Safety valves. 3. Acetylene. 4. Hydrogen. 5. Oxygen. 6. Nitrous oxide. 7. Flammable and combustible liquids. 8. Dip tanks. 9. Explosives and blasting agents. 10. Ammunition nitral agents. 11. Storage · handling of L.P. gases. 12. Anhydrous ammonia.	Be familiar with the dangers of of all potentially dangerous materials used in your area (especially those under pressure) Be sure that all compressed gas cylinders are secured in place with a chain or cable and cannot tip over. Check each container and pipe line in your area for cracks, dents or any other signs of weakness in the containers. To teach your subordinates to respect the materials they use, not fear it. Make sure that each container is properly marked.

OSHA Rules and Regulations - Standards

SUBPART I:

Personal Protective Equipment - This section deals with kinds of equipment needed to protect employees from potential hazards that cannot be engineered out of an operation.

OSHA	FOREMAN SHOULD
The section covers: 1) head, eye and face protection; 2) respiratory protective devices; 3) foot protection and 4) protective clothing for protection against electricity and 5) shields and barriers.	It is the responsibility of the supervisor:
Protective equipment shall be provided, used, and maintained in a sanitary and reliable condition whenever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.	To make sure that everyone wears the equipment in his area. To inform line management of the original or additional need for glasses, shoes, aprons, masks, etc. in your area. To make sure that if the employee buys his own equipment, the Safety Director checks it to see if it is of an approved type. To make sure that: 1. Goggles are not scratched, broken, etc. 2. The equipment is comfortable (man will not wear otherwise). 3. All equipment is neat and clean. 4. The protection equipment is in operable condition. 5. Repair is done properly on protective equipment. To make sure that all knife users have knife safety instruction and understand the personal safety requirements and the care and use of knives.

OSHA Rules and Regulations - Standards

SUBPART J:

General Environmental Controls - This section is devoted to protect the worker from unsafe and unhealthy conditions arising from the general environment.

OSHA

Such topics as: 1) sanitation; 2) color codes; 3) signs and tags showing physical hazards are some of the general items covered.

The general classifications for color coding are:

Red - fire protection equipment and apparatus - danger - stop.

Orange - designated for dange ous parts of machines.

Yellow - caution (against striking against or getting caught in).

Green - safety and first aid equipment.

Blue - Warning against storin or moving of equipment under repair.

Black and White - traffic and houskeeping.

No food is allowed to be eaten in the areas where toxic materials are present.

Many demands are placed upon management to have a clean and healthy environment for its employees. Some of the areas covered are:

1. Good housekeeping.
2. Proper waste disposal.
3. Adequate rodent, insect control.
4. Proper toilet facilities.
5. Lunch rooms and food handling.
6. Potable water

FOREMAN SHOULD

Keep your area clean and neat at all times.

Set the example of keeping the work area, lunch room and toilet facilities clean.

Know that no spitting (specifically) is allowed except in approved containers.

All refuse shall be removed at least daily, more if needed.

Rodent and insect control must be practiced - if pests are in the work area, the supervisor should alert the management.

No "common drinking cups" are allowed.

All signs (warning - watch your step, etc.) must be readable.

You should be aware of the general color coding and what each means.

OSHA Rules and Regulations - Standards

SUBPART K:

Medical and First Aid - This section deals with the basics of first aid and the administration of first aid in the plant.

OSHA	FOREMAN SHOULD
Management must be certain that the health of the employees will be adequately protected by providing available emergency medical facilities. Where the eyes or body of any person may be exposed to injurious materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.	It is your responsibility to make sure that if one of your subordinates gets hurt (regardless of how minor), he goes to first aid and gets attention as soon after the incident as possible. (Even the most minor incidents, slivers, foreign bodies in eyes, etc., may be serious injuries if not taken care of immediately.) Be familiar with Company first aid training and first aid supplies policy guidelines.

OSHA Rules and Regulations - Standards

SUBPART L:

Fire Protection - This section is to insure that protection is provided to fight small fires only and also to clarify what type, number and spacing of fire extinguisher, maintenance and testing of equipment and systems that are in an establishment.

OSHA	FOREMAN SHOULD
Covered in this section is the use use and maintenance of: 1. Portable extinguishers. 2. Standpipe and hose systems. 3. Spring systems. 4. The storage of materials. 5. Signaling systems	The foreman should be thoroughly checked out and able to operate all fire fighting devices in his department. The foreman should be aware of the different types of fires that may occur in his area and instruct his employees (at least every six months) how to fight all types of fires in the area. The foreman should spot check the extinguishers in the area periodically to make sure that they have not been tampered with and that the content of the extinguisher has not been used.

OSHA Rules and Regulations - Standards

SUBPART M:

Compressed Gas and Air Equipment - This section deals with problems or potential hazards that may occur from the rupture or explosion of pressure vessels, which include cylinders, portable tanks and compressed air receivers. Testing, inspection of tanks and the codes dealing with the safety relief valves are cited.

OSHA	FOREMAN SHOULD
Management's responsibility dictated by this section covers requirements for inspection testing and examination of cylinders and the installation of safety relief devices on cylinders, tanks and air receivers.	Report all: 1. Dents in cylinders 2. Cuts or gouges in cylinders 3. Corrosion or pitting of the cylinder 4. Cylinder necks that have "hairline" cracks 5. All cylinders that are not stored in dry, clean area. Make sure that employees do not use compressed air to clean their skin or clothing. Know that no more than 30 P.S.I. (at the nozzle head) is allowed for the cleaning of machines or parts.

OSHA Rules and Regulations - Standards

SUBPART N:

Material Handling and Storage - This section deals with the potential dangers involved with the manual and mechanical handling of materials and the storage of items.

OSHA	FOREMAN SHOULD
Industrial truck, mechanical equipment, overhead and gantry cranes, derricks, etc., are covered in this section. OSHA has definite specific standards that are applicable to each of the aforementioned devices. Management should provide safe equipment with which their em-	Make sure that all aisles are clear where lift trucks are to be used. See that the storage of materials should not in itself create a hazard. Insist that all open pits, vats, ditches, etc., be guarded. Know that some of the regulations for power trucks are: 1. Overhead guards must be in place at all times with "high lift" trucks. 2. Only trained-authorized operators can operate lifts. 3. No man may stand or pass under a suspended load. 4. No riders are allowed. 5.. No passing of other trucks (unless other truck has stopped). 6. No speeding or horseplay. 7. No fuel oil spills should be visible on truck. 8. Trucks should be clean. 9. If trucks seem excessively noisy, they should be reported. 10. Warning signals are operable. Request that all defective tools removed from service.

OSHA Rules and Regulations - Standards

SUBPART O:

Machinery and Machine Guarding - This section insures that protection is provided for every machine at the point of operation and/or power transmission.

Most machines and grinders can be made safe through engineering which may protect the employee against hazards.

If you think that a machine should be guarded better than it already is, you should contact your management supervisor. (All moving parts should be covered.)

OSHA

Woodworking machinery, machine guarding, abrasive wheels, mills and calendars in rubber and plastics, power press, hot metal stamping and mechanical transmission apparatus are covered in this section.

Point of operation is the area on a machine where work is actually performed upon the material being processed.

All sprocket wheels and chains shall be enclosed unless they are more than seven (7) feet above the floor or platform. Where the drive extends over other machine or working areas, protection against falling shall be provided.

Examples of guarding methods are barrier guards, two-hand tripping devices, electronic safety devices, etc.

FOREMAN SHOULD

All existing guards should be in place at all times when a machine is in operation.

Machines should be "locked out" when work is being done on them.

Make sure that machine guards removed by maintenance personnel are replaced.

OSHA Rules and Regulations - Standards

SUBPART P:

Hand and Portable Powered Tools and Other Hand-Held Equipment - This section deals with the protection of the employee at the point of operation for various types of hand-held tools and equipment.

OSHA	FOREMAN SHOULD
Tools involved in this section of the code are circular (portable) saws, abrasive wheels, explosive activated fastening tools, power lawn mowers, air machinery, jacks, etc.	Inspect power cord to ensure that tool is grounded which will prevent electrical shock. See that the correct tool is used for each job. Make sure that all guards on portable power tools are in place. See that power tools are unplugged when the operation is not there. Make sure that employee is safeguarded by means of approving personal safety equipment.

OSHA Rules and Regulations - Standards

SUBPART Q:

Welding Cutting and Brazing - Purpose of this section is to enable management to prevent injury and/or illness, and protection of property from fire because of welding, cutting and brazing operations.

OSHA

The section is detailed and rather specific as to modes of operation regarding all types of cutting and welding procedures. If your dept. is involved with regular welding/cutting processes you should read this section carefully.

"Welder" and "welding operator" mean any operator of electric or gas welding and cutting equipment.

FOREMAN SHOULD

Be acutely aware of all the hazards involved in operations connected with welding operations

Be alert to the accumulation of toxic gases or odors that may lead to potential hazards to the employee.

Ensure that if one of your employees is injured, he is accompanied to first aid and that the attending nurse/physician knows what he was exposed to.

Check the welding equipment to make sure it is in perfect working order at all times.

1. Make sure that the tanks are in good shape and secured properly.

2. Make sure that all electrical equipment is in good working order.

3. Make sure that all acetylene equipment is clean, free from oil and in good working order.

OSHA Rules and Regulations - Standards

SUBPART S:

Electrical - This section is designated to protect employees against unwanted exposure to electrical currents. It provides guidelines for installation, maintenance and use of electrical installation and the utilization of equipment.

OSHA

The subpart is divided into sections which treat: general requirements; overcurrent protection (fuses, etc.); grounding; outlets; junction boxes, etc.; flexible cords; transformers; appliances, hazardous locations.

Coverage is limited in general to building installations and services and specifically excluded is coverage for transportation (vehicles), underground mines, electric railroads, communications utilities and electric utilities. The National Electrical Code is adopted by reference.

FOREMAN SHOULD

Protect your employees against electrical hazards. Some of the things you should be constantly aware of are:

1. Is all of the equipment used in your area properly grounded?
2. Make sure there are no exposed electrical connections that people can get shocks from.
3. Never allow your employees to do electrical maintenance work that should be done by a person familiar with the hazards of working with electricity.
4. Report all: open junction boxes, spliced wiring, broken conduit, open light fixtures, uncoved receptacles.

ELECTRICITY IS TO BE RESPECTED

NOT FEARED

RECORDKEEPING:

OSHA	SUPERVISOR SHOULD
Each facility is required to keep an accurate set of records, post the yearly summary for all employees to see and to submit upon request. all such records to the Secretary of Labor.	You should inventigate each incident and determine how it could have been avoided - this is very important in "curbing" major accidents before they occur.
Every serious or reportable injury must be recorded (logged) within 48 hours after it has been reported.	Understand what injuries and illnesses are recordable: 1. Fatality 2. Lost work days 3. Transfer to another job 4. Termination of employment 5. Loss of consciousness 6. Restriction of work or motion 7. Illnesses diagnosed as occupational 8. Requires medial treatment other than first aid.

QUESTIONS AND ANSWERS RELATING TO OSHA

1. Q. Is there any posting requirement we should be aware of at the beginning of the 1976 calendar year?

   A. Summary Record (Form #102) must be posted on or before February 1 of the year following the year covered by the summary. The summary must be posted for 30 consecutive days.

2. Q. We recently had an OSHA inspection - should we expect a follow-up inspection?

   A. This depends upon the following:

   1. A fatality, hospitalization of 5 or more employees and an employee complaint would result in an immediate inspection regardless of the recent date of your last inspection.

   2. The number of Target Industry establishments within the jurisdiction of the Area Director would govern the speed in which re-inspection is scheduled.

   3. A re-inspection can occur after the abatement period to determine if the establishment has, in fact, abated the previously cited hazards. The number and seriousness of the previously cited hazards would have an influence on this decision.

   4. The industry is still considered a target industry by the Department of Labor for 1976. Inspections of target industry establishments will continue to receive inspection priority.

   We have already experienced a few re-inspections and this trend will continue.

3. Q. What kind of equipment does a Compliance Officer carry with him?

   A. The Compliance Officer carries part of all of the following:

Camera	Respirator
Cyclones	Ear protectors
Filters	Continuity tester
Air pump	Ground tester
V.O.M. tester	Mercury tester
Sound level meter	CO tester
Calibrator	T.D.I. tester

Polariscope	Oxygen indicator
Stop watch	Velometer
Light meter	Tape recorder
Tape	MSH hand pump
Thermometer	

4. Q. <u>If immediate corrections are made in the workplace, will a citation still be issued?</u>

   A. In general, if a violation is found to exist, a citation will be issued.

5. Q. <u>Will there be an inspection if a complaint is anonymous?</u>

   A. Generally not, although the complaint will be maintained on file for future reference. However, if evaluation of the complaint indicates that an imminent danger situation may be involved, an inspection will be conducted immediately.

6. Q. <u>Who will establish the amount of the proposed penalty for serious violation?</u>

   A. The Area Director, after reviewing the Compliance Officer's inspection report, will prepare citations, proposed penalties, and abatement periods where appropriate.

7. Q. <u>There are times when it is difficult to differentiate between medical treatment and first aid on a reportable and non-reportable injury. Should we list them when in doubt?</u>

   A. No. When in doubt, request an interpretation from _____ _____ of our Insurance and Casualty Department.

8. Q. <u>Does the Federal Occupational Safety and Health Act require audiometric examination of employees?</u>

   A. [illegible] it does not [illegible] an amendment is being considered to [illegible] this for employees working in a noisy environment [illegible] levels exceed permissible limits. Reducing [illegible] db to 85 db is also pending.

9. Q. <u>[illegible] are any states that require audiometric examination?</u>

   A. [illegible], the State [illegible] has adopted this provision. We expect some [illegible] to adopt a similar provision as State Occupational [illegible] and Health plans are approved under Part 1902, [illegible] the Code of Federal Regulations.

10. Q. What are the latest Purchasing Directives covering Personal Protective Equipment?

A. 1. Muffs, Ear - for moderate noise areas (where ear plugs are not acceptable).

2. Muffs, Ear - for high frequency noises (exceeding 110 dba).

3. First Aid Kits.

4. Goggles - Safety, Regular, non-fogging and replacement lenses.

11. Q. Should we be changing our local safety committee representatives from time to time?

A. We advocate that the committee members serve for one year; also that the out-going members spend some time with the new members so that establishment inspections can be effectively carried out.

12. Q. We note that other units have "Awards Programs" for best safety performance. Are you considering such a program for our establishments?

A. Yes. We are currently studying various recognition programs and will be submitting our conclusions to the Operating Managers.

13. Q. Are assessments under proposed State Plans as severe as those listed under the Federal Occupational Safety and Health Act?

A. A review of several State proposals indicate assessments are equal to the Federal OSHA and in some cases, actually more severe.

14. Q. What are the functions of the Department of Labor?

A. The D.O.L. administers and enforces statutes designed to advance the public interest by promoting the welfare of the wage earners of the United States, improving their working conditions, and advancing their opportunities for employment.

Major operating components at the regional level include:

... Employment Standards Administration.

... Labor-Management Services Administration.

... Manpower Administration.

... Occupational Safety and Health Administration.

... Bureau of Labor Statistics.

Support functions include:

... Office of the Solicitor.

... Regional Administrative Office.

... Office of Program Review and Audit.

... Office of Information, Publications, and Reports.

Overall coordination and direction is provided by a Regional Director, who is the representative of the Secretary of Labor in the region.

Title 29 - Labor

Chapter XVII - Occupational Safety and Health Administration, Department of Labor

Part 1910 - Occupational Safety and Health Standards

Public Law 91-596, 91st Congress, S.2193, December 29, 1970; this Act may be cited as the "Occupational Safety and Health Act of 1970."

Part 1910 contains all occupational Safety and Health standards promulgated under the Act and are divided in Subparts A through S.

Part 1910 was printed in the Federal Register on May 29, 1971 and became law. Part 1910 was re-issued on October 18, 1972 including amendments through September 22, 1972. Part 1910 was again re-issued on June 27, 1974 incorporating all changes made up to June 3, 1974.

The term "Occupational Safety and Health Standard" means a standard which requires conditions, or the adoption or use of one or more practices, means, methods, operations, or processes, reasonably necessary or appropriate to provide safe and healthful employment and places of employment.

The term "national consensus standard" means any occupational safety and health standard or modifications thereof which (1) has been adopted and promulgated by a nationally recognized standards-producing organization under procedures whereby it can be determined by the Secretary that persons interested and affected by the scope or provisions of the standard have reached substantial agreement on its adoption, (2) was formulated in a manner which afforded an opportunity for diverse views to be considered, and (3) has been designated as such a standard by the Secretary, after consultation with other appropriate Federal agencies.

The term "established Federal standard" means any operative Occupational Safety and Health standard established by any agency of the United States and presently in effect, or contained in any Act of Congress in force on the date of enactment of this Act.

Subpart B - Adoption and Extension of Established Federal Standards

Section 1910.11 - Scope and Purpose

This Section makes certain Federal Standards in effect as of April 28, 1971, as part of this Act.

Section 1910.12 - Construction Work

All standards prescribed in Part 1926 are adopted as occupational safety and health standards. These standards must be complied with when involved in any construction activity.

Volume III "Construction Standards and Interpretations" can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402. A copy of the Construction Standards and Interpretations is maintained in the office of the Director of Safety,

Section 1910.13 - Ship Repairing

Section 1910.14 - Shipbuilding

Section 1910.15 - Shipbreaking

Section 1910.16 - Longshoring

Miscellaneous Operational Directives

A) State Administration and Enforcement of Their Occupational Safety and Health Laws

Many of the states have adopted federal OSHA standards, but some variances do exist within states that have adopted standards "at least as effective as".

If your establishment is within a state that has OSH standards "at least as effective as" federal OSH standards, you should obtain a copy if you have not already done so from the State Departments enforcing them. Designated departments are: (a) Departments of Labor, (b) State Industrial Commissions, and (c) Departments of Licensing and Regulation (reference: telephone directory, State Government). Generally, copies of State OSHA Rules and Regulations can be obtained free of charge if picked up at the appropriate state office. Some require a minimum charge of $2.00 to $3.00 if ordered by mail.

The reason you should have this material is for reference at closing conferences with State Compliance Officers upon completion of an establishment inspection. In addition, you may be unknowingly in violation of a state standard or a specific rule or regulation which is not covered by an existing federal standard, rule or regulation, i.e., Heat and Humidity - State of Minnesota, Sanctions - State of Tennessee, and Red Tag Orders - State of Maryland.

During 1974, State OSH inspections of establishments exceeded Federal OSH inspections for the first time. This trend will continue as State Legislature implement developmental State Plans. Please be governed accordingly.

B) OSHA Color Codes and Accident Prevention Signs and Tags

Signs, tags and symbols are used to indicate or define hazards of a nature such that failure to designate them may lead to accidental injury to workers, to property, or both.

Your Federal Register of OSHA Standards, Subpart J - General Environmental Controls, Sec. 1910.144 and 1910.145 cover these specifications. As a further guide, attached to this letter are General Industry Standards and Interpretations for these sections.

With the exception of exit signs, some directional signs, no smoking signs and color identification of fire extinguishers, we do very little in our establishments to caution, instruct and inform employees through the use of accident prevention signs and tags. This was brought to our attention by OSHA during recent discussions to get various citations amended or withdrawn and I suspect that OSHA will be looking for a voluntary compliance effort.

Production and Maintenance Supervisors and those assigned safety responsibilities are to review the application of signs and tags where such designations are required. The employer would be in a much better position to resolve issues with OSHA and to discipline employee safety violations if signs and tags are prominently displayed.

In addition to unsafe conditions, it is important to warn and caution employees against committing unsafe acts; examples: (1) employees sliding down product chutes to reach a lower level, (2) removing safety guards and shields to release stuck product while machine is operative, (3) feeding augers by hand rather than using implement prescribed for job, (4) placing hands in screw conveyors, (5) operating band saws with guards pulled and locked to highest position with blade fully exposed and (6) removing safety guards from hand-held equipment.

Some of the common signs and tags to be considered in our operations are:

- Caution - (goggles) - (face shields) - (gloves) - must be worn when operating this machine.
- Caution - (hearing protectors) - (hard hats) - must be worn when working in (or entering) area.

- Caution - this door is not an exit door.
- Danger - do not remove safety guards and shields from machine while machine is operative.
- Danger - high voltage.
- Danger - respiratory equipment must be worn when entering.
- Danger - welding is not to be performed in this area.
- Danger - do not climb into chute.
- Danger - do not step or climb over conveyance.
- Instruction - keep knives pouched when not in use - never lay on table.
- Instruction - use implement to feed material - do not use hands.
- Instruction - use hand rail when ascending - descending, do not climb over rail to reach platforms - use walkway.
- Informational - (Women's rest room) - (Men's rest room) - (First Aid room) - (Stretcher) - (no eating in area).
- Directional - (Fire exits) - (First aid) - (Stretcher) - (Fire hose) - (Fire extinguishers) - (Emergency lighting).
- Tags - (do not start - guard removed) - (Out of order) - (Danger - machine in emergency repair) - (Danger - caustics and acids) - (defective equipment - do not use) - (Emergency stop switch).

Memo: The OSHA standards and specifications do not apply to establishment bulletin board notices and postings or to safety posters.

Purchasing Directives will be issued as soon as work is completed with suppliers of signs, tags and sign making kits.

1910.144—SAFETY COLOR CODE FOR MARKING PHYSICAL HAZARDS

(a) Color identification.

(1) Red. Red shall be the basic color for the identification of:

(i) Fire protection equipment and apparatus.

(a) Fire alarm boxes (pull boxes).

(b) Fire blanket boxes.

(c) Fire buckets or pails.

(d) Fire exit signs.

1910.144(a)(1)(i)(d)

(e) Fire extinguishers (if painting the extinguisher is impractical or undesirable, color should be used on the housing, wall, or support to identify the location).

(f) Fire hose locations (color should be used on the reel, supports, or housing but not on the hose).

(g) Fire hydrants (industrial).

(h) Fire pumps.

(i) Fire sirens.

(j) Post indicator valves for sprinkler system (it is suggested that if a traffic hazard is involved, the top should be colored red, and the barrel or post yellow and black stripes).

(k) Sprinkler piping. (See ANSI Standard Scheme for the Identification of Piping Systems, A13.1–1956.)

(ii) **Danger.** Safety cans or other portable containers of flammable liquids having a flashpoint at or below 80° F. table containers of flammable liquids (open cup tester), excluding shipping containers, shall be painted red with some additional clearly visible identification either in the form of a yellow band around the can or the name of the contents conspicuously stenciled or painted on the can in yellow. Red lights shall be provided at barricades and at temporary obstructions, as specified in ANSI Safety Code for Building Construction, A10.2–1944. Danger signs shall be painted red.

(iii) **Stop.** Emergency stop bars on hazardous machines such as rubber mills, wire blocks, flat work ironers, etc., shall be red. Stop buttons or electrical switches used for emergency stopping of machinery shall be red.

(2) **Orange.** Orange shall be used as the basic color for designating dangerous parts of machines or energized equipment which may cut, crush, shock, or otherwise injure and to emphasize such hazards when enclosure doors are open or when gear belt, or other guards around moving equipment are open or removed, exposing unguarded hazards.

(3) **Yellow.** Yellow shall be the basic color for designating caution and for marking physical hazards such as: Striking against, stumbling, falling, tripping, and "caught in between." Solid yellow, yellow and black stripes, yellow and black checkers (or yellow with suitable contrasting background) should be used interchangeably, using the combination which will attract the most attention in the particular environment.

(4) **Green.** Green shall be used as the basic color for designating "Safety" and the location of first aid equipment (other than firefighting equipment).

(5) **Blue.** Blue shall be the basic color for designating caution, limited to warning against the starting, the use of, or the movement of equipment under repair or being worked upon.

(6) **Purple.** Purple shall be the basic color for designating radiation hazards. "Radiation" as used in this subparagraph refers to radiation types such as X-ray, alpha, beta, gamma, neutron, proton, deuteron, and meson. Yellow should be used in combination with purple for markers such as tags, labels, signs, and floor markers.

(7) **Black, white, or combinations of black and white.** Black, white, or a combination of these two, shall be the basic colors for the designation of traffic and housekeeping markings. Solid white, solid black, single color striping, alternate stripes of black and white, or black and white checkers should be used in accordance with local conditions.

(b) Color specifications.

Colors shall meet the tests specified in section 3, Color Definitions, of ANSI Z53.1–1967, Safety Color Code for Marking Physical Hazards.

1910.145—SPECIFICATIONS FOR ACCIDENT PREVENTION SIGNS AND TAGS

(a) Scope.

(1) These specifications apply to the design, application, and use of signs or symbols (as included in paragraphs (c) through (e) of this section) intended to indicate and, insofar as possible, to define specific hazards of a nature such that failure to designate them may lead to accidental injury to workers or the public, or both, or to property damage. These specifications are intended to cover all safety signs except those designed for streets, highways, railroads, and marine regulations. These specifications do not apply to plant bulletin boards or to safety posters.

(2) All new signs and replacements of old signs on or after August 31, 1971, shall be in accordance with these specifications.

(b) Definitions.

As used in this section, the word "sign" refers to a surface on which letters or other markings appear, prepared for the warning of, or safety instructions of, industrial workers or members of the public who may be exposed to hazards. Excluded from this definition, however, are news releases, displays commonly known as safety posters, and bulletins used for employee education.

(c) Classification of signs according to use.

(1) Danger signs.

(i) Danger signs should be used only where an immediate hazard exists. There shall be no variation in the type of design of signs posted to warn of specific dangers and radiation hazards.

(ii) All employees shall be instructed that danger signs indicate immediate danger and that special precautions are necessary.

(2) Caution signs.

(i) Caution signs shall be used only to warn against potential hazards or to caution against unsafe practices.

(ii) All employees shall be instructed that caution signs indicate a possible hazard against which proper precaution should be taken.

(3) Safety instruction signs. Safety instruction signs shall be used where there is a need for general instructions and suggestions relative to safety measures.

(d) Sign design and colors.

(1) Design features. The colors, proportions, and location of the identification panels on each sign shall be in accordance with this paragraph. All signs shall be furnished with rounded or blunt corners and shall be free from sharp edges, burrs, splinters, or other sharp projections. The ends or heads of bolts or other fastening devices shall be located in such a way that they do not constitute a hazard. When conditions warrant the use of a sign size not covered in the following tables, the ratio of the depth of the identifying panel (Danger, Caution, etc.) to the width of the sign shall be as established in Tables J-1 to J-4.

(2) Danger signs.

(i) The colors red, black, and white shall be those of opaque glossy samples as specified in Table 1 of Fundamental Specification of Safety Colors for CIE Standard Source "C", American National Standard Z53.1-1967.

(ii) Standard proportions shall be as indicated in Table J-1, and format shall be as in Fig. J-1.

(3) Radiation warning signs.

TABLE J-1—STANDARD PROPORTIONS FOR DANGER SIGNS

Sign size, inches Height Width	Black rectangular panel, inches Height Width	Red oval, inches Height Width	Word danger, height inches	Maximum space available for sign wording, inches
		HORIZONTAL PATTERN		
7 x 10	3¼ x 9⅝	2⅞ x 8½	1 7/16	2¼ x 6½
10 x 14	4⅝ x 13 5/16	4⅛ x 11 5/16	2 1/16	4⅛ x 13 5/16
14 x 20	6½ x 19⅛	5¾ x 17	2⅞	6½ x 19⅛
20 x 28	9⅛ x 27⅛	8⅛ x 23⅛	4⅛	9⅛ x 27⅛
		UPRIGHT PATTERN		
10 x 7	2¾ x 6⅝	2⅛ x 5⅝	1 5/16	6⅝ x 6⅝
14 x 10	3⅞ x 9⅝	2⅞ x 8½	1 7/16	9½ x 9⅝
20 x 14	4⅝ x 13 5/16	4⅛ x 11 5/16	2 1/16	14 x 13 5/16
28 x 20	6½ x 19⅛	5¾ x 17	2⅞	20¾ x 19⅛

Fig. J-1
Danger Sign

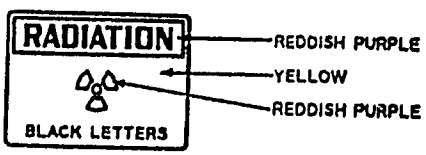


Fig. J-2
Radiation Warning Sign

(i) Standard color of the background shall be yellow; the panel, reddish purple with yellow letters; the symbol, reddish purple; any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard, Z53.1-1967.

(ii) The standard symbol shall be as in Figure J-3. Method of dimensioning, design, and orientation of the standard symbol (one blade pointed downward and centered on the vertical axis) shall be executed as illustrated. The symbol shall be prominently displayed, and of a size consistent with the size of the equipment or material or area to which it is attached.

(iii) Format shall be as in Figure J-2. Sign proportions shall be the same as those for danger signs in Table J-1.

(4) Caution signs.

(i) Standard color of the background shall be yellow; and the panel, black with yel-

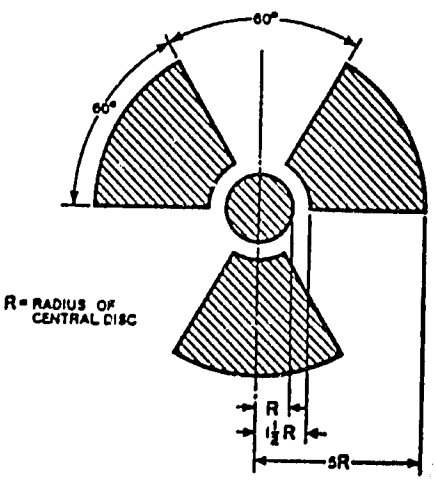


Fig. J-3
Standard Radiation Symbol

low letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1-1967.

(ii) Standard proportions shall be as indicated in Table J-2, and format shall be as in Figure J-4.

Fig. J-4
Caution Sign

TABLE J-2—STANDARD PROPORTIONS FOR CAUTION SIGNS

Sign size inches height width	Black rectangular panel, inches height width	Word "Caution" height of letter, inches	Maximum space available for sign wording below panel inches height width
HORIZONTAL PATTERN			
7 x 10	2¼ x 9⅝	1⅝	3¼ x 9⅝
10 x 14	3¼ x 13⅝	2⅛	5½ x 13⅝
14 x 20	3¼ x 19⅝	2⅝	9 x 19⅝
20 x 28	4¾ x 27⅝	3⅝	14½ x 27⅝
UPRIGHT PATTERN			
10 x 7	1¾ x 6⅝	1⅛	7 x 6⅝
14 x 10	2¼ x 9⅝	1⅝	10½ x 9⅝
20 x 14	3¼ x 13⅝	2⅛	13½ x 13⅝
28 x 20	3¾ x 19⅝	2⅝	24 x 19⅝

(5) **Exit signs.** Exit signs shall be in accordance with § 1910.37(q).

(6) **Safety instruction signs.**

(i) Standard color of the background shall be white; and the panel, green with white letters. Any letters used against the white background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard, Z53.1-1967.

(ii) Standard proportions shall be as indicated in Table J-3, and format shall be as in Figure J-5.

(7) **Directional signs.**

(i) Standard color of the background shall be white; and the panel, black with white directional symbol. Any letters used against the white background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1-1967.

(ii) Standard proportions shall be as indicated in Table J-4, and format shall be as in Figure J-6.

(8) **In-Plant traffic signs.** Regulatory and control signs required for the safe movement of vehicles and pedestrians on thoroughfares on plant property shall conform to the standards established in American National Standard Manual on Uniform Traffic Control Devices for Streets and Highways, D6.1—1961.

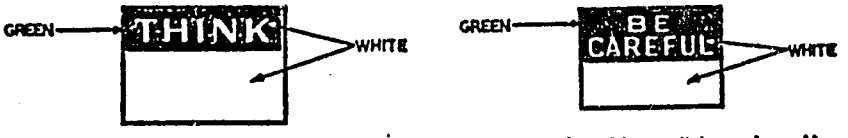
(9) **Informational signs.** Blue shall be the standard color for informational signs. It may be used as the background color for the complete sign or as a panel at the top of such types of "Notice" signs, which have a white background. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1-1967.

(10) **Slow-moving vehicle emblem.** This emblem (see Fig. J—7) consists of a fluorescent yellow-orange triangle with a dark red reflective border. The yellow-orange fluorescent triangle is a highly visible color for daylight exposure. The reflective border defines the shape of the fluorescent color in daylight and creates a hollow red triangle in the path of motor vehicle headlights at night. The emblem is intended as a unique identification for, and it shall be used only on, vehicles which by design move slowly (25 m.p.h. or less) on the public roads. The emblem is not a clearance marker for wide machinery nor is it intended to replace required lighting or marking of slow-moving vehicles. Neither

Best Available Document

TABLE J-3—STANDARD PROPORTIONS FOR SAFETY INSTRUCTION SIGNS

Sign size, inches, height, width	Green rectangular panel, inches, height, width	Word "Think" height of letters, inches	Maximum space available for sign wording below panel, inches height, width	Sign size, inches height, width	Green panel, inches, height, width	Word "Be" height of letters, inches	Word "Careful" height of letters, inches	Maximum space available for sign wording below panel, inches, height, width
7 x 10	2¾ x 9⅝	1⅝	2½ x 9⅝	7 x 10	3⅛ x 9⅝	1¼	1 3/16	2½ x 9⅝
10 x 14	3¾ x 13⅝	2¼	3½ x 13⅝	10 x 14	4⅝ x 13⅝	1⅞	2 3/16	4 x 13⅝
14 x 20	3¾ x 19⅝	2¾	9 x 19⅝	14 x 20	6⅝ x 19⅝	2½	3⅛	6 x 19⅝
20 x 28	4¾ x 27⅝	3¼	14½ x 27⅝	20 x 28	9½ x 27⅝	3½	4⅝	9½ x 27⅝



(NOTE: The words "Think" and "Be Careful," given here, are only illustrations. Other wordings may be used.)

Fig. J-5
Safety Instruction Signs

Table J-4—Standard Proportions for Directional Signs

Sign size, inches height width	Black rectangular panel, inches height width	White arrow, inches				Maximum space for sign wording below panel height
		Overall length	Arrow head height width	Arrow shaft height	Arrow tail height width	
6½ x 14	3¼ x 13⅝	12⅝	2¾ x 3	1⅛	2⅝ x 3⅛	2¼ x 13⅝
9 x 20	4½ x 19⅝	18⅝	3¾ x 4⅛	1⅝	3¼ x 4½	3⅝ x 19⅝
12 x 28	6 x 27⅝	26⅝	5⅛ x 5⅝	2⅛	4½ x 6	4¾ x 27⅝
15 x 36	7½ x 35⅝	34⅝	6⅝ x 6⅞	2⅝	5½ x 7½	6¼ x 35⅝

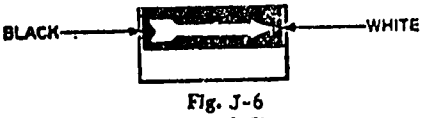


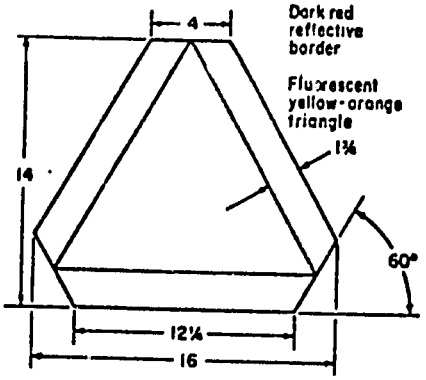
Fig. J-6
Directional Signs

the color film pattern and its dimensions nor the backing shall be altered to permit use of advertising or other markings. The material, location, mounting, etc., of the emblem shall be in accordance with the American Society of Agricultural Engineers Emblem for Identifying Slow-Moving Vehicles, ASAE R276, 1967, or ASAE S276.2 (ANSI B114.1-1971).

(11) Symbols. Symbols used on signs shall follow recognized practices, such as in Figure J-8. For radioactive materials, see symbol in Figure J-3.

(e) Sign wordings.

(1) Examples of wordings. The lists in subparagraphs (3) through (7) of this paragraph are intended to serve as a guide for choosing the correct sign design for the message to be displayed.



NOTE: All dimensions are in inches.

Fig. J-7
Slow-Moving Vehicle Emblem

POISON:

ELECTRICITY:

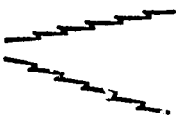


Fig. J-8
Symbols Used on Signs

(2) Nature of wording. The wording of any sign should be easily read and concise. The sign should contain sufficient information to be easily understood. The wording should make a positive, rather than negative suggestion and should be accurate in fact.

(3) Danger signs.

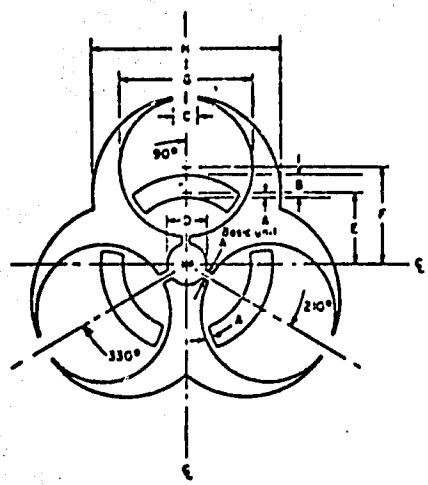
Danger—Keep Off, Electric Current.
Danger—No Smoking, Matches, or Open Lights.
Danger—Men Working Above.
Danger—Not Room Enough Here to Clear Men on Cars.
Danger—Keep Away.
Danger—Men in Boiler.
Danger—Insufficient Clearance.
Danger—2,300 Volts.
Danger—Keep Out.
Danger—Crane Overhead.
Danger—Keep Off.

(4) Biological hazard signs. The biological hazard warning shall be used to signify the actual or potential presence of a biohazard and to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof, which contain, or are contaminated with, viable hazardous agents. For the purpose of this subparagraph the term "biological hazard," or "biohazard," shall include only those infectious agents presenting a risk or potential risk to the well-being of man. The biohazard symbol shall be designed and proportioned as illustrated in figure J-9.

The symbol design shall be a fluorescent orange or orange-red color. Background color is optional as long as there is sufficient contrast for the symbol to be clearly defined. Appropriate wording may be used in association with the symbol to indicate the nature or identity of the hazard, name of individual responsible for its control, precautionary information, etc., but never should this information be superimposed on the symbol.

(5) Caution signs.

Caution—Do Not Operate, Men Working on Repairs.
Caution—Hands Off Switch, Men Working on Line.
Caution—Working on Machines, Do Not Start.
Caution—Goggles Must Be Worn When Operating This Machine.
Caution—This Door Must Be Kept Closed.
Caution—Electric Trucks, Go Slow.
Caution—This Space Must Be Kept Clear at All Times.



Dimension	A	B	C	D	E	F	G	H
Units	1	3½	4	6	11	15	21	30

Fig. J-9
Symbol for Biological Hazard

Caution—Stop Machinery to Clean, Oil, or Repair.
Caution—Keep Aisles Clear.
Caution—Operators of This Machine Shall Wear Snug Fitting Clothing—No Gloves.
Caution—Close Clearance.
Caution—Watch Your Step.
Caution—Electric Fence.

(6) Safety instruction signs.

Report All Injuries to the First-Aid Room at Once.
Walk—Don't Run.
Report All Injuries No Matter How Slight.
Think, If Safe Go Ahead.
Make Your Work Place Safe Before Starting the Job.
Report All Unsafe Conditions to Your Foreman.
Help Keep This Plant Safe and Clean.

(7) Directional signs.

This Way Out (below arrow panel).
This Way (inside arrow) Out (below arrow panel).
Fire Exit (below arrow panel).
Fire (inside arrow) Extinguisher (below arrow panel).
To the (inside arrow) Fire Escape (below arrow panel).
To the (inside arrow) First Aid (below arrow panel).
Manway (below arrow panel).
This Way to (inside arrow) First-Aid Room (below arrow panel).

(8) Informational signs.

No Trespassing Under Penalty of the Law.
This Elevator Is for Freight Only, Not for Passengers.
No Admittance Except to Employees on Duty.
No Admittance.
No Admittance, Apply at Office.
No Trespassing.
Men.
Women.
For Employees Only.
Office.

NOTE: When sign wordings such as those listed in this section are contemplated, care should be taken to be sure that they are suitable for the particular location at which the sign is to be placed and that wording meets the requirements of the intended purpose. When there is a reasonable doubt, a sign of a standard design should be used.

(f) Accident prevention tags.

(1) Scope and purpose.

(i) The tags are a temporary means of warning all concerned of a hazardous condition, defective equipment, radiation hazards, etc. The tags are not to be considered as a complete warning method, but should be used until a positive means can be employed to eliminate the hazard; for example, a "Do Not Start" tag on power equipment shall be used for a few moments or a very short time until the switch in the system can be locked out; a "Defective Equipment" tag shall be

placed on a damaged ladder and immediate arrangements made for the ladder to be taken out of service and sent to the repair shop.

(ii) The purpose of this paragraph is to establish a set of specifications for tags based on experience and previous use. The tags are to be used in industry, mercantile establishments, or wherever such tags can be utilized to help prevent accidental injury to personnel or damage to property, or both.

(2) Definitions. The word "tag" as used in this paragraph refers to a surface (usually card, paper, pasteboard, or some temporary or nonpermanent material) on which letters or markings, or both, appear. These letters or markings, or both, are for warning (cautioning) or safety instruction of employees who may be exposed to hazards. They are to be affixed to the device in question by string, wire, or adhesive.

(3) Do not start tags.

(i) The standard background color for Do Not Start tags shall be red. (See Fig. J-10.)

(ii) Letters shall be white or grey or etched, provided that a long lasting and sharp contrast results.

(iii) Do Not Start tags shall be placed in a conspicuous location or shall be placed in such a manner that they effectively block the starting mechanism which would cause hazardous conditions should the equipment be energized.

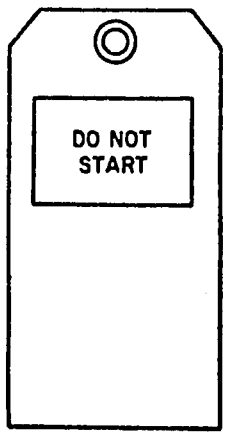
(4) Danger tags.

(i) Danger tags should be used only where an immediate hazard exists. There should be no variation in the type of design of tags posted or hung to warn of specific dangers. (See Fig. J-11.)

(ii) All employees should be instructed that Danger tags indicate immediate danger and that special precautions are necessary.

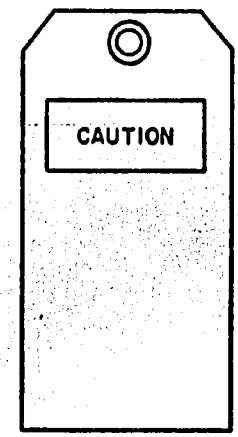
(5) Caution tags.

(i) Caution tags should be used only to



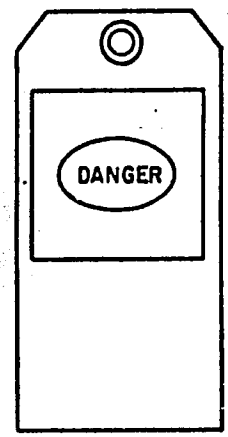
White tag
white letters on
red square

Fig. J-10
Do Not Start Tag



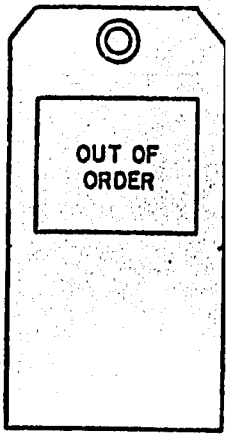
Yellow tag
yellow letters on a
black background

Fig. J-12
Caution Tag



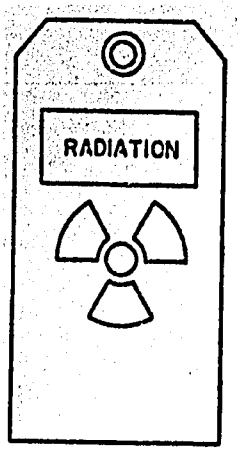
White tag
white letters on
red oval with a
black square

Fig. J-11
Danger Tag



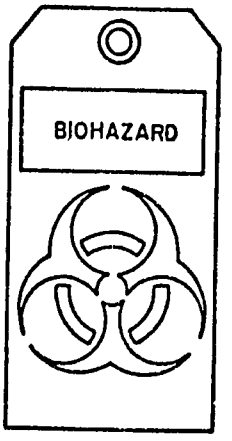
White tag
white letters on
black background

Fig. J-13
Out of Order Tag



Yellow tag
yellow letters in
reddish-purple panel
(Added wording in black
on yellow background)

Fig. J-14
Radiation Tag



White tag
black letters on
fluorescent-orange
background and
symbol

Fig. J-15
Biological Hazard Tag

warn against potential hazards or to caution against unsafe practices. (See Fig. J-12.)

(ii) All employees should be instructed that Caution tags indicate a possible hazard against which proper precautions should be taken.

(6) *Out of order tags.* Out of Order tags should be used only for the specific purpose of indicating that a piece of equipment, machinery, etc., is out of order and to attempt to use it might present a hazard. (See Fig. J-13.)

(7) **Radiation tags.**

(i) The standard background for Radiation tags shall be yellow; the panel shall be reddish purple. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1, Fundamental Specification of Safety Colors for CIE Standard Source "C" American National Standard Safety Color Code for Marking Physical Hazards and the Identification of Certain Equipment, Z53.1-1967.

(ii) The method of dimension, design, and orientation of the standard symbol (one blade pointed downward and centered on the vertical axis) shall be executed as illustrated in Figure J-14. The symbol shall be prominently displayed and of a size consistent with the size of the equipment or area in which it is to be used.

(8) **Biological hazard tags.**

(i) The standard background color for the Biological Hazard symbol is optional as

long as there is sufficient contrast for the symbol to be clearly defined. The symbol design (see Fig. J-15, shall be a fluorescent orange or orange-red color.

(ii) The Biological Hazard tag shall be used to signify the actual or potential presence of a biohazard, to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof, which contain or are contaminated with viable hazardous agents.

(iii) For the purpose of this subparagraph the term "biological hazard" shall include only those infectious agents presenting a risk or potential risk to the well-being of man.

C) RESPIRATORY PROTECTION

GAS MASKS AND CANISTERS

GAS MASK

Number Required

Inasmuch as there is considerable variation in the size of establishments, number of separate walled buildings in which refrigeration is used, the physical location and proximity of the engine rooms, etc., the number of gas masks set forth in this section only covers the minimum number to be located at each establishment as specified.

A greater number is permitted in larger establishments and establishments with multi-buildings and the local engineer and operating management should use good judgment as to the total needs in excess of minimum and subsequent location of the masks.

Not all masks should be located at the point of greatest danger, for example, if all masks were concentrated in the engine room, a leak could isolate the area and prevent personnel from reaching a mask. Following are three (3) primary mask locations, with one mask to be accessible to the plant engineer at his immediate work area.

1. One mask in plant engineer's office.
2. One mask at entrance to engineer's office.
3. One mask in shop area located so that mask is available at all times, not locked behind doors or cages.

GAS MASKS AND CANISTERS FOR EMERGENCY USE

On the following pages the prefix 1910.134 in the instructions are excerpts from the Federal Register of OSHA Standards, Title 29 - Labor, Part 1910, Wednesday, October 18, 1972.

Employer Responsibility

1910.134 (2) 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 protection program.

Employee Responsibility

1910.134 (3) The employee shall use the provided respiratory protection in accordance with instructions and training received.

Maintenance and Care of Respirators

1910.134 (4) (1) 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.

(iv) Storage

Inspection

1910.134 (b) (7) Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.

1910.134 (F)(2)(iii) Respirator inspection shall include a check of the tightness of connections and the condition of the face piece, headbands, valves, connecting tube and canisters. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. Stretching and manipulating rubber or elastomer parts with a massaging action will keep them pliable and flexible and prevent them from taking a set during storage.

1910.134 (F)(2)(iv) A record shall be kept of inspection dates and findings for respirators maintained for emergency use.

1910.134 (e) (2) Each respirator permanently assigned to an individual should be durably marked to indicate to whom it was assigned. This mask shall not affect the respirator performance in any way. The date of issuance should be recorded.

Cleaning and Disinfecting

1910.134 (F)(3) Routinely used respirators shall be collected, cleaned, and disinfected as frequently as necessary to insure that proper protection is provided for the wearer. Each worker should be briefed on the cleaning procedure and be assured that he will always receive a clean and disinfected respirator. Such assurances are of greatest significance when respirators are not individually assigned to workers. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

Cleaner - disinfectant solutions are available from M.S.A. Catalog #34337, 25 one-ounce packages per carton. M.S.A. cleaner-sanitizer is a highly efficient cleaning powder which can be mixed with warm water for cleaning soiled safety equipment. USDA Registration No. 4204-3 for more detailed information, ask for Bulletin No. 1006-4 from your local M.S.A. office. Alternatively, respirators may be washed in a liquid detergent solution, then immersed in:

1. A hypochlorite solution (50 PPM of chlorine) for 2 minutes, or

2. An aqueous iodine solution (50 PPM of iodine for 2 minutes, or

3. A quaternary ammonium solution (200 PPM of quaternary ammonium compounds in water with less than 500 PPM total hardness).

Difference concentrations of quaternary ammonium salts are required to achieve disinfecting solutions with waters of varying hardness. Dermatitis may occur if the compounds are not completely rinsed from the respirator. Hypochlorite and iodine solutions are not stable. They age rubber parts and are corrosive to metallic parts. Therefore, immersion times should not be extended and disinfectants thoroughly rinsed. Temperatures above 185° F. should not be used. The M.S.A. cleaner disinfectant is recommended in preference to alternate cleaners.

Repair

1910.134 (F)(4) Replacements or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustment or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

Identification of Gas Mask Canisters

1910.134 (G)(1) The primary means of identifying a gas mask canister shall be by means of properly worded labels. The secondary means of identifying a gas mask canister shall be by a color code.

Canisters for ammonia contaminants are color coded "Green."

Canisters for chloring are "white" with "1/2 inch yellow stripe" completely around the canister near the bottom.

1910.134 (G)(6) The color coding used shall offer a high degree of resistance to chipping, scaling, peeling, blistering, fading, and the effects of the ordinary atmosphere to which they may be exposed under normal conditions of storage and use. Appropriately colored pressure sensitive tape may be used for the stripes.

Application and Limitations

Gas masks have been used for years for respiratory protection. However, because gas masks are air purifying devices, designed solely to remove specific contaminants from the air, it is essential that their use be restricted to atmospheres which contain sufficient oxygen to support life, at least 16% by volume and which contains concentrations of generally no more than 2% concentrations of toxic gases and vapors. (3% ammonia.) In assessing exposure conditions, it is important to remember that oxygen deficiency can occur in confined spaces by displacement of air by other gases or vapors. Warning signs of nausea, dizziness or ill-being require immediate return to fresh air. Uncomfortable heat in the inhaled air indicates concentrations above the canister limit have been encountered. (A properly operating canister will become warm on exposure to certain gases.) Normal oxygen content of the atmosphere is 20.9%.

Service Life

The service life of an air purifying device depends on the following factors:

(1) The design including the quality and amount of chemical fill, packing uniformity and density.

(2) Variable exposure conditions, including concentration of contaminants and breathing rate of wearer, temperature and humidity.

For guidance purposes, actual man tests at 3% ammonia (2% other gases), indicate that M.S.A. Industrial Size Canisters have a service life of 30 minutes. The type N canisters, when exposed

to ammonia, have a service life of 15 minutes. Super-size canisters, because of greater volume, will last twice as long as equivalent industrial size canisters (1 hour). Chin-style canisters, because of their small size, should not be used in concentrations not in excess of 0.5%. Thus, chin-style canisters are limited and not recommended as a replacement for the standard industrial gas mask.

Canister Replacement

Canisters used for emergency purposes shall be replaced after each emergency use. Specific indications for canister replacement and/or return to fresh air are:

(1) If the window indicator of the type N canisters show the specified color changes.

(2) If any leakage is detected by smell, taste, eyes, nose or throat irritation.

(3) If high breathing resistance develops.

(4) If the canister shelf-life is exceeded.

All canisters should be dated at the time of purchase by the plant or branch, if not already dated by the manufacturer. If not used within one year for respiratory protection, the canister should be replaced due to deterioration of chemicals from shelf-life. Once the seal over the air inlet has been opened, the canister should be replaced. For this reason, it is recommended that the plastic protector over the threads of the canister and seal over the air inlet be left in position. Once the need for a gas mask arises, the mask can be adjusted to the face while breathing through the disconnected hose. The hose can be quickly screwed to the canister while checking the face piece for a seal by drawing a slight vacuum in the face piece. The tape can then be pulled and the mask placed in operation. For masks using slip-neck canisters, the above procedure must be modified. This type connection can be found on older masks and has largely been replaced by the screw-type connection. Conversion kit part #84984 is available from M.S.A. to convert to threaded canisters.

Training

1910.134 (E)(5)(i) Every respirator wearer shall receive fitting instructions including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly. Respirators shall not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, sideburns, a skull cap that projects under the face piece, or temple pieces on glasses. Also, the absence of one or both dentures can seriously affect the fit of a face piece. The worker's diligence in observing these factors shall be evaluated by periodic check. To assure proper protection, the face piece fit shall be checked by the wearer each time he puts on the respirator.

F) OCCUPATIONAL NOISE EXPOSURE - HEARING PROTECTION PROGRAM

References: 1. Federal Register Part II, Subpart G - Occupational Health and Environmental Control - Section 1910.95 - Occupational Noise Exposure

2. Guidelines to the Department of Labor's Occupational Noise Standards Bulletin 334 (Revised 1971)

Preliminary noise studies at several of our establishments have revealed little uniformity in noise levels from unit to unit. Accordingly, each individual establishment must test, evaluate and implement a hearing protection program which will be effective under its own particular circumstances.

As a first step, each establishment shall develop a list of jobs and/or areas in which permissible sound levels are exceeded (8 hours at 90 dba, or fewer hours at higher sound intensities as specified in the OSHA Rules and Regulations). Such lists are already available where preliminary studies have been made.

To aid in drawing up such a list, a limited number of sound level measurement devices are available within the Company. These will be scheduled and sent to establishments in rotation and you will be notified before the equipment is sent to you.

As soon as you complete your list of excessive noise areas at your establishment, send one copy to your headquarters Division Operations Manager with a copy to me. You will then be advised when and in what areas an employee hearing protection program shall be implemented.

The following guidelines highlight Company's policy in relation to occupational noise exposure and will also help you implement the employee hearing protection program at your establishment.

1. Indoctrination

As with other kinds of personal protective equipment (hard hats, goggles, respirators, etc.), it may be difficult to convince employees that hearing protectors are necessary. Since this will probably be an employee's first exposure to a hearing protection program in their behalf, it is important that an educational and indoctrination program precede the use of protectors.

Before conducting noise level studies, local management must solicit employee cooperation by advising employee committees and employee representatives (as well as the local safety committee and local union committee where applicable) of the intent of the studies. The use and function of the sound level meter and the dosimeter must be explained to the employee(s). This can be done at the time readings are taken or, preferably, in management/employee meetings, through the Department Supervisor, or through notices on bulletin boards, etc.

2. Measurement Devices

A. Sound Level Meters

This instrument changes noise into an electrical signal and displays it on a meter in terms of "decibels" (dba). Sound level meters are to be used to measure noise exposure on operations where machines are in constant or near-constant operation near the place where employees spend the majority of their time in work and attention. The meters are also used where sound level readings are high, even for short durations.

The procedure for measuring noise with the sound level meter can be learned in a matter of minutes. In use, the meter is simply held at the ear level near the employee's position. The meter needle position is then recorded. If readings are consistently below 89 dba, one reading per hour for a full work day should be sufficient. If readings fluctuate below and above 90 dba, additional readings shall be made until a pattern is established and the causes of the high readings are established.

B. Dosimeter

This instrument is designed to determine the cumulative noise exposure to which an employee is subjected over an extended period or an entire working day. It is particularly effective where an employee(s) job

combination results in moving to varied sound level areas or where tests with the sound level meter are inconclusive. Preliminary test work indicates minimum use of this instrument.

The Dosimeter is a compact, portable instrument which clips onto an employee's belt or slips into his pocket. A connected sensitive microphone clips to the employee's collar near his ear.

At the end of the time period (usually a day), a small "memory cell" is removed from the instrument. A separate device "reads" the cell and indicates the result in percent of allowable noise exposure as established by the Regulations. The cell can then be regenerated for reuse.

Tests with the Dosimeter must be closely supervised, including starting and stopping. The "cell" readout equipment is maintained by the Director of Safety in the headquarters office and the small memory cells are sent there for "reading."

3. Suspect Areas

Not all establishments are considered suspect, e.g., Service branches, sales offices, distribution centers, etc. Generally speaking, if it is difficult to carry on a normal conversation at a work area, chances are there is excessive noise in the area and noise level studies should be taken at that point.

4. Hearing Protectors

A. Ear Plugs

Shape has little to do with the effectiveness of commercially available plugs except as they affect acceptance by users. Ear plugs generally reduce noise reaching the area by 25 to 30 db in the higher frequencies which are conceded to be the most harm-

ful. This will provide protection against sound levels of 115 to 120 db.

There is a large variety of plugs available which meets Federal standards and which employees can insert effectively. They come with or without connective bands. Plugs with connective bands are recommended where product contamination may be a consideration. Each establishment that requires the use of hearing protectors will stock more than one kind of plug so a selection is available to the employees.

B. Ear Muffs

Ear muffs are relatively expensive. They may be used if an employee has a personal sensitivity to plugs and in cases of extreme noise exposure. The only fitting required is adjustment to the headband.

The better type of ear muff may reduce noise an additional 10 to 15 decibels, making them effective against sound levels of 130 - 135 db. We have not found noise levels in this range in any studies to date.

C. Wax Impregnated Cotton

Wax impregnated cotton provides about the same protection as ear plugs. However, it tends to lose its effectiveness during the work day, primarily because of jaw movements which tend to break the acoustic seal between ear and insert.

In dirty, dusty areas, this material is objectionable from a sanitary standpoint. It should be used only once, so the cost of frequent replacement can become an important consideration.

It is recommended that Supervisory offices have a supply of wax impregnated cotton for department visitors, temporary hires, employees forgetting their hearing protectors and for employees unable to wear other protectors.

D. Dry Cotton

Contrary to popular opinion, dry cotton affords little or no protection and must not be used as a hearing protector.

E. General

A properly designed and well-fitted ear protector will cause no more difficulty to an employee than a pair of safety goggles. Nevertheless, some employees may resist. The most common reason is that they cannot stand plugs of any kind in their ear. In these cases, employees may readily accept the use of wax impregnated cotton and we suggest trial of this material before resorting to ear muffs.

Contrary to popular opinion, the use of ear protectors will not make it more difficult to understand speech or to hear warning signals when worn in a noise environment.

5. Program Compliance

When you are instructed to issue hearing protectors, their use by the employees is to be initially on a voluntary basis. The overall acceptance of the program by the affected employees will have to be evaluated carefully before any enforcement measures are considered through Company work rules and disciplines.

If you receive a noise exposure citation from a Compliance Officer or Industrial Hygienist, the short term abatement requirement will probably be to provide and utilize approved or accepted hearing protectors. In those cases, the use of hearing protectors by affected employees is compulsory.

It is advisable that, when an area is identified as one requiring use of protective equipment by workers, signs be posted stating that all personnel must wear ear protectors when in that area.

6. Equipment Issue

At establishments where we have a bargaining unit, hearing protectors will be classified as personal safety equipment and will be provided by the Company as determined by noise exposure studies.

7. Engineering and Administrative Controls

The use of hearing protectors does not relieve us of the responsibility for reducing noise levels through engineering and administrative controls. The U.S. Department of Labor is quite clear in pointing out that such personal protective equipment is considered a short-term solution while long-term engineering and administrative controls are being perfected.

Inasmuch as engineering controls will be of primary concern in regard to reducing noise emissions, an Engineering Noise Control Measures Guide is attached.

A reference guide listing the primary writings on Industrial Noise, e.g., Industrial Hygiene Associations, American Standards Institute, National Safety Council, Public Health Services, can be obtained by directing your request to the writer.

8. Purchasing

If you wish to purchase a sound level meter for your establishment, your purchasing agent shall obtain purchasing information from _____. It is recommended that a calibrator accompany the order for the meter.

All immediate questions concerning the selection and purchase of hearing protectors shall be directed to the writer.

Conclusion

If you have any questions concerning the initial phase of the noise study and hearing protection programs, do not hesitate to contact your headquarters Division Operations Manager.

ENGINEERING NOISE CONTROL MEASURES

Engineering controls are those which reduce the sound intensity either at the source of the noise or in the hearing zone of the workers.

The following are examples of Engineering Control Measures that should be examined to determine whether or not an excess sound level machine or machine component can be corrected by the plant engineering personnel:

A. Maintenance

1. Replacement or adjustment of worn or unbalanced parts of a machine.
2. Lubrication of machine parts.
3. Properly balanced and sharpened cutting knives.
4. Air and steam leaks in pipes, fitting and stuffing boxes.

B. Substitution of Machine or Machine Components

1. Larger, slower speed pumps and fans for smaller, faster ones.
2. Belt drives for chain or gear drives.

C. Vibration Dampening

1. Use rubber or spring vibration dampers for machine bases.

2. Increase mass of foundation.
3. Flexible shaft couplings.
4. Flexible sections in pipe runs.

D. Isolating Noise Sources
1. Insulate machinery enclosure.
2. Relocate machine component to remote location such as vacuum and other pumps.

E. Reducing Sound Produced by Fluid or Air Flow
1. Intake and/or exhaust mufflers.
2. Fan blades designed to reduce turbulence.
3. Air orifices designed to reduce sound level.

The plant engineer should contact the Division or Region Engineer for assistance if the excess sound level of a machine cannot be corrected locally.

G) FIRST AID TRAINING AND FIRST AID SUPPLIES (OSHA)

The Secretary of Labor and the President of the American National Red Cross, have signed a "Statement of Understanding" which recognizes Red Cross first aid as meeting the standards for first aid under the Occupational Safety and Health Act. This "Statement" means that Red Cross courses in standard, advanced, or basic first aid satisfy the first aid training requirements of the law as specified in Subpart K of the OSHA Rules and Regulations.

Compliance officers throughout the States are enforcing Subpart K. Some of the citations they have issued read:

"No qualified first aid person"

"Not properly training first aid person"

"No first aid kit, no emergency first aid person"

"No first aid person at work site"

"Failure to provide first aid supplies and first aid attendant"

"First aid supplies not approved by consulting physician"

Subpart K is made up of only a few paragraphs consisting of several broad statements. The broad statements are subject to a variety of interpretations by various compliance officers. Because of this, and because we face a variety of situations at our establishments, a simple first aid compliance policy statement is not practical. Therefore, the following guidelines must be carefully observed:

1. There must be at least one person trained in first aid for each production and/or maintenance shift at every establishment.

2. Where nurses are employed on the day shift, there must be at least one person trained in first aid for every other shift worked.

3. Where production is performed in separate walled buildings, there must be at least one person trained in first aid in each building.

4. In multiple-floor buildings which employ more than 500 people per shift, there must be at least one person trained in first aid on each floor of the building. This excludes floors which are used only for storage purposes.

5. All first aid supplies must be approved by the establishment's consulting physician.

6. The above guidelines must be observed regardless of outside location of hospital, clinic, medical center, doctor's office, ambulance service, mobile medical units, etc.

If the particular situation in your establishment is not covered by the above guidelines, please contact me immediately. Please note that the law, and therefore the above guidelines, apply to every establishment--sales, distribution, and for production.

Note, also, that the guidelines call for the minimum number of trained first aid individuals. Consideration should be given to your particular type of operation, your total incident rate and your injury experience. Keep in mind, too, that there should be enough trained people at your establishment to cover absenteeism, changed shifts, vacations, etc.

There are several types of first aid courses offered by the Red Cross, the multimedia standard first aid course is designed for industry and meets the requirements of the law. Experience in industrial first aid training shows that we can make the best use of the program by having one or more persons trained as Red Cross first aid instructors. They, in turn, could train others at the unit's convenience.

If you do not have a Red Cross chapter in your immediate area, contact the nearest Red Cross office for information concerning first aid training services available to employers.

The selection of hourly employees for training, both male and female, must be on a voluntary basis and should be handled through your local Safety Committee in cooperation with your local Union Committee or local Employee Committee.

Because of the emphasis being placed on Subpart K of the Federal Rules and Regulations and in consideration of pending State Rules and Regulations pertaining to first aid, it is important that I have available the number of both hourly and salaried personnel that have had first aid training or will be given first aid training at each establishment. Please submit these numbers no later than _____.

If you have any questions concerning the status of your establishment as related to first aid, please contact the writer immediately.

H) PERSONAL PROTECTIVE EQUIPMENT (OSHA)

The Company shall continue its present individual establishment practices with respect to furnishing personal protective equipment:

1. Where bargaining agreements so specify, the Company shall furnish, at its own expense, all personal protective equipment. An employee must turn in to the Company such furnished equipment when it is no longer required, when replacement is deemed necessary and when employment is terminated.

2. Where an establishment has a bargaining agreement, the Company shall furnish, at its own expense, all personal protective equipment which it requests the employees to use and the employee must use such equipment so furnished. An employee must turn in to the Company such furnished equipment under same conditions as under No. 1.

3. If you wish to deviate from any one of the following practices which you have in effect, such deviation must be obtained from your headquarters Division Operations Manager. A copy of this request shall be sent to the Director of Safety, Company:

   (a) Where an employee pays for personal protective equipment.

   (b) Where an employee places a deposit with the Company for personal protective equipment.

   (c) Where an employee and employer jointly share in the cost of the employee's personal protective equipment.

I. On-The-Job Personal Protective Equipment

A. All of the following personal protective equipment issued by the Company and used by the employee must conform to ANSI standards (American National Standards Institute) --- Federal Register Part II, Section 1910.139 ---

   (1) 1910.133(a) --- ANSI Z87.1-1968, Eye and Face Protection

   (2) 1910.134 --- ANSI Z88.2-1969, Standard Practice for Respiratory Protection

(3) 1910.134 Table 1-1 --- ANSI K13.1-1967, Identification of Gas Mask Canister

(4) 1910.135 --- ANSI Z89.1-1969, Safety Requirements for Industrial Head Protectors

(5) 1910.136 --- ANSI Z41.1-1967, Men's Safety - Toe Footwear

(6) In addition to the above only those ear protectors which have been tested in accordance with ANSI standard Z24.22-1957, "Method for Measurement of the Real-Ear Attenuation of Ear Protectors at Threshold", are acceptable to the Department of Labor.

CONCLUSION

No single personal safety equipment rule can be issued to cover all employee situations resulting from differences in job combinations and types and kinds of production and material handling equipment used. Therefore, a hazard and the amount of personal equipment to protect the employee from such hazard can only be determined at the local level.

Hard hats are to be worn where an employee is exposed to overhead conveyances and falling objects. Safety toed shoes are required where employees are stacking, lifting and transporting heavy objects where such objects, if dropped on the foot, could result in a reportable injury.

It is not difficult to identify hazards requiring face and eye protection. Such things to be considered are: (a) flying particles of sawing, chipping and grinding, (b) splashes of acids, alkalie, or other hazardour liquids or chemicals, (c) welding, cutting, brazing and soldering and (d) hot solutions.

A hazard is "recognized" if it is a condition that is of common knowledge or general recognition in the particular industry in which it occurs.

Your local reports of injuries and illnesses is your best guide in measuring the adequacy of your local personal protective equipment program.

INDUSTRIAL HEAD PROTECTORS (SAFETY HATS)

Industrial head protectors or otherwise called safety hats, caps or helmets are for the protection of heads of occupational workers from impact and penetration from falling and flying objects and from limited electric shock. Finally, head protectors can often save the scalp, face and neck from the results of overhead spills of caustics or hot liquids and can help prevent the collection of irritating dusts in the hair.

OSHA Standards Title 29 - Labor, Subpart I - Personal Protective Equipment, Sections 1910.132 and 1910.135, referencing head protection, is general in its intent, therefore, consideration must be taken of what a reasonable person of ordinary prudence would do under the circumstances. It is not difficult to identify employee exposure to hazards requiring head protection. Such things to be considered are: (a) overhead conveyances, trolley runs and chains; (b) overhead maintenance work; and (c) mechanical or manual hoisting and stacking products or materials, to name a few.

Our purchasing directive issued 4/22/74 and revised 4/22/75 specifies head protectors to be used in our establishments which meet both Federal and ANSI 2-28-1 for impact and Edison EEI standard for electrical resistance and penetration. So-called "bump" hats, caps or helmets shall not be used by employees for industrial head protection and shall be removed and replaced as specified in the existing purchasing directive. Department Supervisors shall not be allowed to wear "bump" hats if they are exposed to the same hazardous conditions as their employees.

It is essential that we comply with the OSHA requirements of industrial head protection. This office can no longer intervene on your behalf to plead with OSHA officials to have citations relating to head protection withdrawn or amended on the basis that we do have a Company program and that time is required to get it fully implemented.

WHEN TO ENFORCE USE OF HEARING PROTECTORS - EAR PLUGS AND EAR MUFFS

This letter sets forth the conditions under which you are to enforce the wearing of hearing protectors by employees working in areas which are identified as having noise levels in excess of OSHA standards.

I. When Cited by OSHA for Noise Violation:

The first requirement in a noise citation is that employees working in cited noise locations must wear hearing protectors. The date by which alleged violation must be corrected with respect to hearing protectors is upon receipt of citation. In other words, the employer must issue and enforce the use of hearing protectors immediately. Failure to do so could result in OSHA issuing employer citations for "Willful Violation"

The Act requires that a copy of the citation be prominently posted "in a conspicuous place upon receipt" at or near each place a violation referred to in the citation occurred. This posting requirement notifies both the employee and the employe of immediate compliance.

Upon receipt of a noise citation, the establishment safety committee and union committee shall be advised in a meeting that the Company is required by law to enforce the use of hearing protectors immediately and will do so by use of the normal disciplinary penalties.

II. When Noise Measurements Are Conducted by Personnel Trained in the Use of Sound Measuring Instruments Which Identify Noise Levels in Excess of OSHA Standards:

All Company establishments have been advised of the noise compliance plan for Company consisting of two parts; they are:

1. Measurement of noise levels using sound metering instruments; and

2. Application of engineering controls to reduce noise levels to permissible limits as established by OSHA standards.

Inasmuch as this is a Company-wide voluntary compliance plan, you are not to enforce the wearing of hearing protectors until such time as an on-going engineering noise control abatement program is established and implemented.

Example:

Noise measurements are completed at the establishment and a work location is identified as having noise levels in excess of OSHA standards. A local engineering noise abatement plan is established and initiated.

As soon as the plan for abatement is initiated, all affected employees shall be notified that the wearing of hearing protectors will be compulsory and enforced while at their work stations. Normal disciplinary action is to be taken for violation in accordance with Labor Relations policy. Local Union Committee and Safety Committees are also to be notified of this action. A notice may be placed on the department employee bulletin board if this is a customary local practice. A sign shall be posted in the work area stating that ear protection must be worn in that area.

III. Hearing Protectors:

Purchasing Directives have been issued for the following hearing protectors for use in Company Operations. If you are missing any copies, such can be obtained by directing your request to _____.

Plugs -
Supplier: _____.

Plugs -
Supplier: _____.

Plugs -

Supplier: _____.

Ear Protection -
Supplier: _____.

Muffs -

Supplier: _____.

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Muffs -
Supplier: _____.

Muffs - Ear
Supplier: _____.

IV. Engineering Controls Versus Administrative Controls:

Engineering controls is any procedure other than administrative control or personal protection that reduces the sound level either at the source of the noise or in the hearing zone of the employees; administrative controls procedure is essentially the transferring of employees from a high noise level area to a low noise level area so that, over an eight-hour day, they are not exposed to noise levels in excess of permissible limits.

Administrative controls are least desirable as they do present a number of problems in the production and labor relations area, but nevertheless, must be examined for possible application where engineering controls fail.

In a situation where administrative controls can be applied, the wearing of hearing protectors is not compulsory. In these cases, hearing protectors shall be offered to the employees and worn on a voluntary basis.

V. Employee Request For Hearing Protectors When Working In Areas Not Identified As Having Noise Levels In Excess of Permissible Limits:

Occasionally, you may receive a request from employees for hearing protectors even though they are working in areas where noise measurements have shown noise levels to be within permissible limits as established by OSHA standards. There are some who are sensitive to certain frequencies and it shall be our policy to issue hearing protectors when such requests are made.

Conclusion:

There are a great variety of hearing protectors on the market and our purchasing directives cover those in general use in manufacturing industry. Nevertheless, some employees may prefer to wear another kind; in these cases, approval for their use must be obtained from this office.

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OSHA NO. 100

LOG OF OCCUPATIONAL INJURIES AND ILLNESSES

Form Approved
OMB NUMBER 44R 1453

Case or file no.	Date of injury or initial diagnosis of illness. If diagnosis of illness was made after first day of absence enter first day of absence. (mo./day/yr.)	Employee's Name (First name, middle initial, last name)	Occupation of injured employee at time of injury or illness	Department to which employee was assigned at time of injury or illness	DESCRIPTION OF INJURY OR ILLNESS: Nature of injury or illness and part(s) of body affected (Typical entries for this column might be: Amputation of 1st joint right forefinger; Strain of lower back; Contact dermatitis on both hands; Electrocution—body)	Injury or Illness code (See codes at bottom of page.)	EXTENT OF AND OUTCOME OF INJURY OR ILLNESS: Fatalities: Enter date of death (mo./day/yr.)	Lost Workday Cases: Enter workdays lost due to injury or illness (see instructions on back.)	Lost Workday Cases: If, after lost workdays, the employee was permanently transferred to another job or was terminated, enter a check in the column below	Nonfatal Cases Without Lost Workdays: If no entry was made in columns 8 or 9, but the injury or illness did result in: Transfer to another job or termination, or; medical treatment, other than first aid, or; diagnosis of occupational illness, or; loss of consciousness, or; restriction of work or motion; Enter a check in the column below	Nonfatal Cases Without Lost Workdays: If a check in column 11 represented a transfer or termination, enter another check in column 12
1	2	3	4	5	6		7	8	9	10	11	12

Company Name _____

Establishment Name _____

Establishment Location _____

Injury Code
10 All occupational injuries

Illness Codes

21 Occupational skin diseases or disorders
22 Dust diseases of the lungs (pneumoconioses)
23 Respiratory conditions due to toxic agents
24 Poisoning (Systemic effects of toxic materials)
25 Disorders due to physical agents (other than toxic materials)
26 Disorders due to repeated trauma
29 All other occupational illnesses

LOG OF OCCUPATIONAL INJURIES AND ILLNESSES

Each employer who is subject to the recordkeeping requirements of the Occupational Safety and Health Act of 1970 must maintain for each establishment a log of all recordable occupational injuries and illnesses. This form (OSHA No. 100) may be used for that purpose. A substitute for the OSHA No. 100 is acceptable if it is as detailed, easily readable and understandable as the OSHA No. 100.

Each recordable occupational injury and occupational illness must be timely entered on the log. Logs must be kept current and retained for five (5) years following the end of the calendar year to which they relate. Logs must be available (normally at the establishment) for inspection and copying by representatives of the Department of Labor, or the Department of Health, Education and Welfare, or States accorded jurisdiction under the Act.

INSTRUCTIONS FOR COMPLETING LOG OF OCCUPATIONAL INJURIES AND ILLNESSES

Column 1 - CASE OR FILE NUMBER

Enter a number which will facilitate comparison with supplementary records. Any series of nonduplicating numbers may be used.

Column 2 - DATE OF INJURY OR ONSET OF ILLNESS

For occupational injuries enter the date of the work accident which resulted in injury. For occupational illnesses enter the date of initial diagnosis of illness, or, if absence from work occurred before diagnosis, enter the first day of the absence attributable to the illness which was later diagnosed or recognized.

Column 3 - EMPLOYEE'S NAME

Column 4 - OCCUPATION

Enter regular job title, not the specific activity being performed at time of injury or illness. In the absence of a formal occupational title, enter a brief description of the duties of the employee.

Column 5 - DEPARTMENT

Enter the name of the department or division in which the injured person is regularly employed, even though temporarily working in another department at the time of injury or illness. In the absence of formal department titles, enter a brief description of normal workplace to which employee is assigned.

Column 6 - NATURE OF INJURY OR ILLNESS AND PART(S) OF BODY AFFECTED

Enter a brief description of the injury or illness and indicate the part or parts of body affected. Where entire body is affected, the entry "body" can be used.

Column 7 - INJURY OR ILLNESS CODE

Enter the one code which most accurately describes the case. A list of the codes appears at the bottom of the log. A more complete description of recordable occupational injuries and illnesses appears in "DEFINITIONS."

Column 8 - DEATHS

If the occupational injury or illness resulted in death, enter date of death.

Column 9 - LOST WORKDAY CASES

Enter a check for each case which involves days away from work, or days of restricted work activity, or both. Each lost workday case also requires an entry in column 9A or column 9B, or both.

Column 9A - LOST WORKDAYS–DAYS AWAY FROM WORK

Enter the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness. The number of lost workdays should not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

NOTE: For employees not having a regularly scheduled shift., i.e., certain truck drivers, construction workers, farm labor, casual labor, part-time employees, etc., it may be necessary to estimate the number of lost workdays. Estimates of lost workdays shall be based on prior work history of the employee AND days worked by employees, not ill or injured, working in the department and/or occupation of the ill or injured employee.

Column 9B - LOST WORKDAYS–DAYS OF RESTRICTED WORK ACTIVITY

Enter the number of workdays (consecutive or not) on which because of injury or illness:

1) the employee was assigned to another job on a temporary basis, or
2) the employee worked at a permanent job less than full time, or
3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of lost workdays should not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Column 10 - NONFATAL CASES WITHOUT LOST WORKDAYS

Enter a check for any recordable case which does not involve a fatality or lost workdays.

Column 11 - TERMINATIONS OR PERMANENT TRANSFERS

Enter a check if the entry in columns 9 or 10 represented a termination of employment or permanent transfer.

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OSHA No. 102

Form Approved
OMB No. 44R 1453

Summary

Occupational Injuries and Illnesses

Establishment Name and Address:

Injury and Illness Category		Fatalities	Lost Workday Cases			Nonfatal Cases Without Lost Workdays*	
Code 1	Category 2	3	Number of Cases 4	Number of Cases Involving Permanent Transfer to Another Job or Termination of Employment 5	Number of Lost Workdays 6	Number of Cases 7	Number of Cases Involving Transfer to Another Job or Termination of Employment 8
10	Occupational Injuries						
	Occupational Illnesses						
21	Occupational Skin Diseases or Disorders						
22	Dust diseases of the lungs (pneumoconioses)						
23	Respiratory conditions due to toxic agents						
24	Poisoning (systemic effects of toxic materials)						
25	Disorders due to physical agents (other than toxic materials)						
26	Disorders due to repeated trauma						
29	All other occupational illnesses						
	Total—occupational illnesses (21-29)						
	Total—occupational injuries and illnesses						

*Nonfatal Cases Without Lost Workdays—Cases resulting in: Medical treatment beyond first aid, diagnosis of occupational illness, loss of consciousness, restriction of work or motion, or transfer to another job (without lost workdays).

OSHA No. 101
Case or File No. .....

Form approved
OMB No. 44R 1453

Supplementary Record of Occupational Injuries and Illnesses

EMPLOYER

1. Name .....
2. Mail address .....
   (No. and street) (City or town) (State)
3. Location, if different from mail address .....

INJURED OR ILL EMPLOYEE

4. Name ..... Social Security No. .....
   (First name) (Middle name) (Last name)
5. Home address .....
   (No. and street) (City or town) (State)
6. Age ..... 7. Sex: Male..... Female..... (Check one)
8. Occupation .....
   (Enter regular job title, not the specific activity he was performing at time of injury.)
9. Department .....
   (Enter name of department or division in which the injured person is regularly employed, even though he may have been temporarily working in another department at the time of injury.)

THE ACCIDENT OR EXPOSURE TO OCCUPATIONAL ILLNESS

10. Place of accident or exposure .....
    (No. and street) (City or town) (State)
    If accident or exposure occurred on employer's premises, give address of plant or establishment in which it occurred. Do not indicate department or division within the plant or establishment. If accident occurred outside employer's premises at an identifiable address, give that address. If it occurred on a public highway or at any other place which cannot be identified by number and street, please provide place references locating the place of injury as accurately as possible.
11. Was place of accident or exposure on employer's premises? ..... (Yes or No)
12. What was the employee doing when injured? .....
    (Be specific. If he was using tools or equipment or handling material, name them and tell what he was doing with them.)
    .....
13. How did the accident occur? .....
    (Describe fully the events which resulted in the injury or occupational illness. Tell what happened and how it happened. Name any objects or substances involved and tell how they were involved. Give full details on all factors which led or contributed to the accident. Use separate sheet for additional space.)
    .....

OCCUPATIONAL INJURY OR OCCUPATIONAL ILLNESS

14. Describe the injury or illness in detail and indicate the part of body affected. .....
    (e.g.: amputation of right index finger at second joint; fracture of ribs; lead poisoning; dermatitis of left hand, etc.)
    .....
15. Name the object or substance which directly injured the employee. (For example, the machine or thing he struck against or which struck him; the vapor or poison he inhaled or swallowed; the chemical or radiation which irritated his skin; or in cases of strains, hernias, etc., the thing he was lifting, pulling, etc.)
    .....
    .....
16. Date of injury or initial diagnosis of occupational illness .....
    (Date)
17. Did employee die? ..... (Yes or No)

OTHER

18. Name and address of physician .....
19. If hospitalized, name and address of hospital .....
    .....

Date of report ..... Prepared by .....
Official position .....

SUPPLEMENTARY RECORD OF OCCUPATIONAL INJURIES AND ILLNESSES

To supplement the Log of Occupational Injuries and Illnesses (OSHA No. 100), each establishment must maintain a record of each recordable occupational injury or illness. Workmen's compensation, insurance, or other reports are acceptable as records if they contain all facts listed below or are supplemented to do so. If no suitable report is made for other purposes, this form (OSHA No. 101) may be used or the necessary facts can be listed on a separate plain sheet of paper. These records must also be available in the establishment without delay and at reasonable times for examination by representatives of the Department of Labor and the Department of Health, Education and Welfare, and States recorded jurisdiction under the Act. The records must be maintained for a period of not less than five years following the end of the calendar year to which they relate.

Such records must contain at least the following facts:

1) *About the employer*—name, mail address, and location if different from mail address.

2) *About the injured or ill employee*—name, social security number, home address, age, sex, occupation, and department.

3) *About the accident or exposure to occupational illness*—place of accident or exposure, whether it was on employer's premises, what the employee was doing when injured, and how the accident occurred.

4) *About the occupational injury or illness*—description of the injury or illness, including part of body affected; name of the object or substance which directly injured the employee; and date of injury or diagnosis of illness.

5) *Other*—name and address of physician; if hospitalized, name and address of hospital; date of report; and name and position of person preparing the report.

SEE *DEFINITIONS* ON THE BACK OF OSHA FORM 100.

safety and health protection on the job

The Williams-Steiger Occupational Safety and Health Act of 1970 provides job safety and health protection for workers through the promotion of safe and healthful working conditions throughout the Nation. Requirements of the Act include the following:

Employers: Each employer shall furnish to each of his employees employment and a place of employment free from recognized hazards that are causing or are likely to cause death or serious harm to his employees; and shall comply with occupational safety and health standards issued under the Act.

Employees: Each employee shall comply with all occupational safety and health standards, rules, regulations and orders issued under the Act that apply to his own actions and conduct on the job.

The Occupational Safety and Health Administration (OSHA) of the Department of Labor has the primary responsibility for administering the Act. OSHA issues occupational safety and health standards, and its Compliance Safety and Health Officers conduct jobsite inspections to ensure compliance with the Act.

Inspection: The Act requires that a representative of the employer and a representative authorized by the employees be given an opportunity to accompany the OSHA inspector for the purpose of aiding the inspection.

Where there is no authorized employee representative, the OSHA Compliance Officer must consult with a reasonable number of employees concerning safety and health conditions in the workplace.

Complaint: Employees or their representatives have the right to file a complaint with the nearest OSHA office requesting an inspection if they believe unsafe or unhealthful conditions exist in their workplace. OSHA will withhold names of employees complaining on request.

The Act provides that employees may not be discharged or discriminated against in any way for filing safety and health complaints or otherwise exercising their rights under the Act.

An employee who believes he has been discriminated against may file a complaint with the nearest OSHA office within 30 days of the alleged discrimination.

Citation: If upon inspection OSHA believes an employer has violated the Act, a citation alleging such violations will be issued to the employer. Each citation will specify a time period within which the alleged violation must be corrected.

The OSHA citation must be prominently displayed at or near the place of alleged violation for three days, or until it is corrected, whichever is later, to warn employees of dangers that may exist there.

Proposed Penalty: The Act provides for mandatory penalties against employers of up to $1,000 for each serious violation and for optional penalties of up to $1,000 for each nonserious violation. Penalties of up to $1,000 per day may be proposed for failure to correct violations within the proposed time period. Also, any employer who willfully or repeatedly violates the Act may be assessed penalties of up to $10,000 for each such violation.

Criminal penalties are also provided for in the Act. Any willful violation resulting in death of an employee, upon conviction, is punishable by a fine of not more than $10,000 or by imprisonment for not more than six months, or by both. Conviction of an employer after a first conviction doubles these maximum penalties.

Voluntary Activity: While providing penalties for violations, the Act also encourages efforts by labor and management, before an OSHA inspection, to reduce injuries and illnesses arising out of employment.

The Department of Labor encourages employers and employees to reduce workplace hazards voluntarily and to develop and improve safety and health programs in all workplaces and industries.

Such cooperative action would initially focus on the identification and elimination of hazards that could cause death, injury, or illness to employees and supervisors. There are many public and private organizations that can provide information and assistance in this effort, if requested.

More Information: Additional information and copies of the Act, specific OSHA safety and health standards, and other applicable regulations may be obtained from the nearest OSHA Regional Office in the following locations:

Atlanta, Georgia
Boston, Massachusetts
Chicago, Illinois
Dallas, Texas
Denver, Colorado
Kansas City, Missouri
New York, New York
Philadelphia, Pennsylvania
San Francisco, California
Seattle, Washington

Telephone numbers for these offices, and additional Area Office locations, are listed in the telephone directory under the United States Department of Labor in the United States Government listing.

Washington, D.C.
1973
OSHA 2003

Peter J. Brennan
Secretary of Labor

U.S. Department of Labor
Occupational Safety and Health Administration

Best Available Document

H. POSTING REQUIREMENTS

1. General Rules on Posting

In addition to certain records discussed *supra*, any notices (*e.g.*, citations,[21] notices of contest,[22] notices of hearing, petitions for modification of abatement date (PMA), variance applications, access orders for employee medical records, lead exposure signs, cotton dust warning signs, coke oven cancer hazard signs) furnished by OSHA that inform employees of their rights and obligations under the Act, must be posted at each establishment by the employer, in a conspicuous place or places where employee notices are customarily posted. See, *e.g.*, Sections 9(b) and 10(c) of the Act; Commission Rule 7 and 34; see also 29 CFR 1903.16, .14(c) and .2; and 2200.34(c)(1); *Ed Miller & Sons, Inc.*, 2 OSHC 1132 (1974). Failure to post such notices and/or certify that posting was accomplished may prejudice an employer's rights under the Act. *Car and Truck Doctor, Inc.*, 8 OSHC 1767 (1980). The requirement that an employer display an OSHA poster does not violate the First Amendment right of freedom of speech. *Lake Butler Apparel Co. v. Secretary of Labor*, 519 F.2d 84, 3 OSHC 1522 (5th Cir. 1975).

"Establishment" is defined as a single physical location where business is conducted or where services or industrial operations are performed (*e.g.*, factory, store, hotel, restaurant, movie theater, farm, bank, warehouse, office). Where distinctly separate activities are performed at a single physical location, each activity is treated as a separate physical establishment, with separate notices posted. Where employers are engaged in activities which are physically dispersed, such as agriculture, construction, or transportation, the notice shall be posted at the location to which employees report each day or if they do not usually work at or report to a single establishment, such notice shall be posted at the location from which they operate to carry out their activities.

For example, 29 CFR 2200.34(c)(1) (Commission Rule 34), sets forth the specific requirements for notifying employees that a PMA has been filed by an employer. A copy of the petition must "be posted in a conspicuous place where all affected employees will have notice thereof or near each location where the violation occurred." The rule also requires that the petition remain posted for a period of ten days. Absent this notice, affected employees may be deprived of their right to oppose an employer's request for an extension of the abatement date or to otherwise participate in proceedings which result from an employer's PMA. *Auto Bolt & Nut Company*, 7 OSHC 1203 (1979); *Brockway Glass Company*, 6 OSHC 2089 (1978).

Completion of abatement (or vacation of citation) does not require a posting, rather, at that time the posted notice of contest may be removed. 29 CFR 1903.16(b). The failure of an employer to post a notice informing employees of their right to participate in Commission proceedings may require dismissal of the notice of contest. *Caribtow Corp.*, 1 OSHC 1503 (1973), *aff'd*, 493 F.2d 1064, 1 OSHC 1592 (1st Cir. 1974), *cert. denied*, 419 U.S. 830, 2 OSHC 1239 (1974).

OSHA posting requirements are different from the recordkeeping pro-

visions: whereas the recordkeeping provision may not apply to certain employers (railroads), the posting provision may. *Chicago, Rock Island & Pacific Railroad Co.*, 3 OSHC 1694 (1975).

2. The OSHA Poster and Annual Summary

Each employer must display in each establishment a poster (the OSHA poster) which informs employees of the protections and obligations under the Act. See Section 8(c)(1) of the Act; 29 CFR 1903.2(a)(1). Failure to post the OSHA poster constitutes a violation of the Act and may result in issuance of a citation. *Intermountain Block & Pipe Corp.*, 1 OSHC 3145 (1972); *Automotive Products Corp.*, 1 OSHC 1772 (1974). The posting requirement has been held not to violate the First Amendment right of freedom of speech. *Lake Butler Apparel Co. v. Secretary of Labor*, 519 F.2d 84, 3 OSHC 1522 (5th Cir. 1975). Where a state has an *approved* poster informing employees of their protections and obligations, such poster, when posted, shall constitute compliance with the posting requirements of the Act. 29 CFR 1903.2(a)(2).

The Annual Summary, that is, the last page of OSHA Form No. 200, must be posted yearly at the time specified in the regulations. The failure to post the Annual Summary may result in a violation of 29 CFR 1904.5(d)(1). *Simmons, Inc.*, 6 OSHC 1157 (1977).

3. Place of Posting; Definition of "Establishment"

The regulations require that the OSHA poster be displayed at the employer's establishment at a location to which the employees report every day. 29 CFR 1903.2(b). As applied to the posting requirement, the definition of "establishment" is very broad. 29 CFR 1903.2(b). For example, a temporary construction worksite has been called an establishment such that the posting of notices was required under the Act. *Intermountain Block & Pipe Corporation*, 1 OSHC 3145 (1972); but see *San Juan Construction Company, Inc.*, 3 OSHC 1445 (1975). Chapter VII of the FOM provides for posting of notices on construction sites at the trailer or office if employees report there on a daily basis; in addition, a copy must be posted at any other location where employees are required to report daily. If there is no obvious place to post, the employer must furnish a suitable place in a conspicious location adjacent to the worksite and protect the notice from the weather.

In *Western Waterproofing, Inc.*, 7 OSHC 1499 (1979), the employer was a roofing and waterproofing contractor with its principal place of business in Dallas. The worksite in question was located in Albuquerque, New Mexico. The employees assigned to the Albuquerque location were regularly stationed in Dallas but did not report to the Dallas headquarters during the term of the six-week Albuquerque assignment. There was no OSHA poster at the Alburquerque site at the time of the inspection. A poster was, however, properly posted at the Dallas headquarters warehouse where the employees

regularly gathered, and a poster furnished by the OSHA compliance officer was posted at the Albuquerque site immediately subsequent to his inspection.

The regulation required the employer to post the notice in "each establishment." The regulation defined an "establishment" as "a single physical location where business is conducted or where services or industrial operations are performed." 29 CFR 1903.2(b). This definition, standing alone, would bring the Albuquerque jobsite under the regulation. However, 1903.2(b) later qualifies the definition as follows:

> Where employers are engaged in activities which are physically dispersed, such as agriculture, construction, transportation, communications, and electric, gas and sanitary services, the notice or notices required by this section shall be posted at the location to which employees report each day. Where employees do not usually work at, or report to, a single establishment, such as longshoremen, travelling salesmen, technicians, engineers, etc., such notice or notices shall be posted at the location from which the employees operate to carry out their activities.

Thus the definition of "establishment" distinguishes between situations where employers maintain multiple worksites but with each employee reporting to a particular location each day, and those where each employee frequently changes the physical location at which he works. In the former situations, the notice must be posted at each location; in the latter, it need only be posted "at the location from which the employees operate to carry out their activities."

Although the regulation lists "construction" as a type of activity for which the notice must be posted at the location to which employees report each day, some construction work falls under the category described in the latter part of the definition. See, *e.g., A. A. Will Sand & Gravel Corp.* 4 OSHC 1442 (1976) (driver who delivered and helped unload gravel at construction site held engaged in construction work); *Heede International, Inc.*, 2 OSHC 1466 (1975) (employee dismantling crane that was used on construction site held engaged in construction work). The listing of "construction" in the former part of the definition is, therefore, for purposes of illustration; it does not provide a mandatory requirement that each employer engaged in construction work post a notice at each site at which its employees may work. Thus simply because the employees in *Western Water Proofing* were engaged in construction work did not prove that the Albuquerque location was an "establishment" within the meaning of the cited regulation.

In this case, both parts of the definition partially described the nature of the employees operation. Although the employees reported to Albuquerque each day during the six-week period, they were normally assigned to various job sites from the Dallas headquarters, which can, therefore, be considered the "location from which (they) operate to carry out their activities." In other words, the regulation did not draw a sharp distinction between worksites at which the notice must be posted, and those that are so temporary that a notice is not required. Whereas in this case, either part of the definition is arguably applicable, it was appropriate to look to whether the purpose of the regulation was fulfilled in deciding whether an employer violated it. Here

the employees had a full opportunity to read the OSHA poster, which was properly displayed at the Dallas headquarters where they regularly reported, thus fulfilling the purpose of the regulation. The Review Commission, therefore, concluded that the company did not violate 29 CFR 1903.2(a)(1).

Places and the time periods of posting for other notices are set forth as follows: (1) citation—post immediately upon receipt at or near place where violation occurred, to remain posted for 3 days or until violation is abated or vacated whichever is later; (2) notice of contest—posted immediately upon receipt at location of citation until disposition of matter; (3) PMA—10 days if not objected to (otherwise until settled) at location where citation is posted; (4) Annual Summary—in a conspicious place from February 1 to March 1 of each year; (5) labels and signs—continuously as required by standard at safe distance from area and on the materials involved; and (6) petition for record-keeping exceptions—continuously where OSHA poster is posted.

4. Multiple Worksites

When the employer is engaged in activities which require that operations be physically dispersed, the notice must be posted at the location where the employees *report* to work each day. *Par Construction, Inc.*, 4 OSHC 1799 (1976).

Whether or not the employees actually see the notice is irrelevant for purposes of compliance with this regulation. As long as the notices are conspicuously posted at the place where the employees report, the employer should not be cited. *Danco Construction Co.*, 3 OSHC 1114 (1975).

5. Multiple Reporting Sites

If the employees do not report to a single establishment, then the notices must be posted at the *base* from which the employees operate to carry out their activities. The failure to post the poster at a job site is not a violation where posters were maintained at the main headquarters and field offices, since there is nothing permanent at the job site on which the poster could be posted. *Kent Nowlin Construction Co., Inc.*, 5 OSHC 1051 (1977).

The permanence of the structure is often determinative of whether something is a "base" at which notices must be posted. See *BI-CO Pavers, Inc.*, 2 OSHC 3142 (1974), where the lack of permanent shelters at a worksite meant that a "base" was not established.

6. How to Post Notices or Posters

Posting must be in a "conspicuous" place at the establishment, or in places where employee notices are customarily posted or maintained. The employer must "take steps to insure that such notices are not altered, defaced, or

covered by other material" (29 CFR 903.2(a)(1)). Destruction of poster and wall by a tornado did not absolve employer from the duty to post. *Custom Fabricators, Inc.*, 3 OSHC 1459 (1975). Merely showing the poster to employees does not fulfill the employer's duty to post in a conspicuous place. *Kinney Steel*, 3 OSHC 1453 (1975).

7. Failure to Post

The OSHA Field Operations Manual directs compliance officers to determine, upon inspection, if posting requirements have been met in accordance with 29 CFR 1903.2(a) and 1904.5(d). Failure to comply with the posting regulations may result in issuance of citations and proposed penalties. *Intermountain Block & Pipe Corporation, supra; McDowell Co., surpa.* But the temporary removal of the poster during yearly painting and clean-up accompanied by subsequent replacement will be substantial compliance with 29 CFR 1903.2(a). *Glendale Mills, Inc.*, 6 OSHC 1361 (1978).

An employer cannot be cited, however, unless OSHA has supplied him with the posters or other notice, *i.e., Woerfel Corp.*, 1 OSHC 3299 (1974); *Oak Lane Diner*, 1 OSHC 1248 (1973); *Ira Holliday Logging Co., Inc.*, 1 OSHC 1200 (1973).

Failure to post a notice of contest and provide certification of posting may result in dismissal of the notice of contest. *Car and Truck Doctor, Inc.*, 8 OSHC 1767 (1980).

Certain set penalties (gravity based) will normally be proposed for violations of the posting regulations: (1) failure to post notice of the Act furnished by OSHA—$100; (2) failure to post citations—$500 for *each* citation; and (3) failure to post a copy of the Summary of Occupational Injuries and Illnesses —$200. Violations of posting and recordkeeping requirements which involve the same document are grouped for penalty purposes. FOM, Chapter XII. However, in *Cornett & Weaver*, 7 OSHC 1665 (1979), the failure to post the OSHA poster drew only a $1.00 penalty. In *Stowe Canoe Co.*, 4 OSHC 1012 (1976), no penalty was assessed for failure to post the annual summary. The Secretary bears the burden of establishing that employees do not report to the place where notices are posted. *Davis-McKee, Inc.*, 2 OSHC 3046 (1974).

8. Time of Posting

From February 1 to March 1, each establishment having eleven or more employees must post in areas where notices to employees are customarily posted a copy of the year's total count of job-related injuries and illnesses that occurred in their establishments during the previous calendar year. The last page or right-hand portion of OSHA Form No. 200 with only the yearly totals, establishment identification, and certification may be used for this purpose. The form must be posted in the place or places where notices to employees are customarily displayed.

Establishments having no injuries or illnesses during the year must enter zeros on the totals line, sign, and post the form.

The OSHA poster must be posted at all times.

9. Specific Posting Requirements

a. *Imminent Danger*

If when notified of an imminent-danger situation by an OSHA inspector, the employer fails to eliminate the danger or remove employees from the area and give assurances that the danger will be eliminated, the inspector, with the approval of the OSHA Area Director, shall post a "notice of alleged imminent danger." Section 13 of the Act; FOM Chapter IX(c)(4).

b. *Toxic and Hazardous Substance*

Standards regulating exposure to toxic substances or harmful physical agents (*e.g.*, asbestos, cotton dust, benzene, coke oven emissions, 4-Nitrobiphenyl, lead, acrylonite, inorganic arsenic) require the posting of caution signs, labels, and warnings.

c. *Signs, Tags, Labels, and Warnings*

These are required to be posted with respect to the following standards *inter alia:* (1) accident prevention (exits, slow moving vehicles, danger, caution) 29 CFR 1910.145; (2) respirators 29 CFR 1910.134; (3) powered platforms 29 CFR 1910.66; (4) crane operating instructions 29 CFR 1926.550(a)(2); (5) fire and explosion prevention (no smoking) 29 CFR 1926.151–.152; (6) conveyors 29 CFR 1926.555; and (7) explosives 29 CFR 1926.903. Program directives such as No. 100–24 concerning the "Caution Labeling of Radial Saws," 29 CFR 1910.213(h)(5), may impose additional obligations with respect to posting. Failure to post signs, labels, or tags will subject an employer to a violation of the standard or even to the general-duty clause. *Cajun Company,* 6 OSHC 1804 (1978); *United States Pipe and Foundry Company,* 6 OSHC 1332 (1978); *Hillsdale Lumber & Mfg., Inc.*, 5 OSHC 1281 (1977).

In *Sierra Construction Corp.*, 6 OSHC 1278 (1978) the Commission held that an employer's use of its own signaling system did not relieve it from compliance with 29 CFR 1926.550(a)(4) posting requirements, absent application for a variance. Moreover, the incorrect citation of a subsection of a standard did not prejudice the employer since the substance of the alleged violation, absence of a poster, was basically the same. The failure to post was also not a *de minimus* violation since the hazard addressed in the standard was not trifling.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS FOR RECORDING AND REPORTING OCCUPATIONAL INJURIES AND ILLNESSES

(Code of Federal Regulations, Title 29, Chapter XVII, Part 1904, 36 FR 12612, July 2, 1971; amended at 37 FR 736, January 18, 1972; 37 FR 2439, February 1, 1972; 37 FR 20822, October 4, 1972; 42 FR 38567, July 29, 1977; 42 FR 65164, December 30, 1977; 43 FR 31324, July 21, 1978)

Title 29—LABOR

Chapter XVII—Occupational Safety and Health Administration, Department of Labor

PART 1904—RECORDING AND REPORTING OCCUPATIONAL INJURIES AND ILLNESSES

The new Part 1904 reads as follows:

Sec.

1904.1 Purpose and scope.
1904.2 Log of occupational injuries and illnesses.
1904.3 Period covered.
1904.4 Supplementary record.
1904.4a Temporary rules.
1904.5 Annual summary.
1904.6 Retention of records.
1904.7 Access to records.
1904.8 Reporting of fatality or multiple hospitalization accidents.
1904.9 Initials — falsification — failure to keep records or reports.
1904.10 Recordkeeping under approved State plans.
1904.11 Change of ownership.
1904.12 Definitions.
1904.13 Petitions for recordkeeping exceptions.
1904.14 Employees not in fixed establishments.
1904.15 Small employers.
1904.20 Description of statistical programs.
1904.21 Duties of employers
1904.22 Effect of State plans.

AUTHORITY: The provisions of this Part 1904 issued under secs. 3(c)(1), (2), 8(g)(2), and 24(e), 84 Stat. 1590, 1600, 1615; 29 U.S.C. 657, 673.

§ 1904.1 Purpose and scope.

The regulations in this part implement sections 8(c)(1), (2), 8(g)(2), and 24 (a) and (e) of the Occupational Safety and Health Act of 1970. These sections provide for recordkeeping and reporting by employers covered under the act as necessary or appropriate for enforcement of the act, for developing information regarding the causes and prevention of occupational accidents and illnesses, and for maintaining a program of collection, compilation, and analysis of occupational safety and health statistics. The regulations in this Part were promulgated with the cooperation of the Secretary of Health, Education, and Welfare.

§ 1904.2 Log and summary of occupational injuries and illnesses.

(a) Each employer shall, except as provided in paragraph (b) of this section, (1) maintain in each establishment a log and summary of all recordable occupational injuries and illnesses for that establishment; and (2) enter each recordable injury and illness on the log and summary as early as practicable but no later than 6 working days after receiving information that a recordable injury or illness has occurred. For this purpose form OSHA No. 200 or an equivalent which is as readable and comprehensible to a person not familiar with it shall be used. The log and summary shall be completed in the detail provided in the form and instructions on form OSHA No. 200.

(b) Any employer may maintain the log of occupational injuries and illnesses at a place other than the establishment or by means of data-processing equipment, or both, under the following circumstances:

(1) There is available at the place where the log is maintained sufficient information to complete the log to a date within 6 working days after receiving information that a recordable case has occurred, as required by paragraph (a) of this section.

(2) At each of the employer's establishments, there is available a copy of the log which reflects separately the injury and illness experience of that establishment complete and current to a date within 45-calendar days.

[1904.2 amended at 37 FR 736, January 18, 1972; 42 FR 65164, December 30, 1977]

§ 1904.3 Period covered.

Records shall be established on a calendar year basis.

[1904.3 amended at 42 FR 65164, December 30, 1977]

§ 1904.4 Supplementary record.

In addition to the log and summary of occupational injuries and illnesses provided for under §1904.2, each employer shall have available for inspection at each establishment within 6 working days after receiving information that a recordable case has occurred, a supplementary record for each occupational injury or illness for that establishment. The record shall be completed in the detail prescribed in the instructions accompanying Occupational Safety and Health Administration Form OSHA No. 101. Workmen's compensation, insurance, or other reports are acceptable alternative records if they contain the information required by Form OSHA No. 101. If no acceptable alternative record is maintained for other purposes, Form OSHA No. 101 shall be used or the necessary information shall be otherwise maintained.

[1904.4 amended at 37 FR 736, January 18, 1972, 42 FR 65164, December 30, 1977]

§ 1904.5 Annual summary.

(a) Each employer shall post an annual summary of occupational injuries and illnesses for each establishment. This summary shall consist of a copy of the year's totals from the form OSHA No. 200 and the following information from that form: calendar year covered, company name, establishment name, establishment address, certification signature, title, and date. A form OSHA No. 200 shall be used in presenting the summary. If no injuries or illnesses occurred in the year, zeros must be entered on the totals line, and the form must be posted.

(b) The summary shall be completed by February 1 beginning with calendar year 1979. The summary of 1977 calendar-year's occupational injuries and illnesses shall be posted on form OSHA No. 102.

(c) Each employer, or the officer or employee of the employer who supervises the preparation of the log and summary of occupational injuries and illnesses, shall certify that the annual summary of occupational injuries and illnesses is true and complete. The certification shall be accomplished by affixing the signature of the employer, or the officer or employer who supervises the preparation of the annual summary of

occupational injuries and illnesses, at the bottom of the last page of the log and summary or by appending a separate statement to the log and summary certifying that the summary is true and complete.

(d)(1) Each employer shall post a copy of the establishment's summary in each establishment in the same manner that notices are required to be posted under § 1903.2(a)(1) of this chapter. The summary covering the previous calendar year shall be posted no later than February 1, and shall remain in place until March 1. For employees who do not primarily report for work at a single establishment, or who do not report to any fixed establishment on a regular basis, employers shall satisfy this posting requirement by presenting or mailing a copy of the summary portion of the log and summary during the month of February of the following year to each such employee who receives pay during that month. For multi-establishment employers where operations have closed down in some establishments during the calendar year, it will not be necessary to post summaries for those establishments.

[1904.5 amended at 37 FR 736, January 18, 1972; 37 FR 20822, October 4, 1972; 42 FR 65164, December 30, 1977]

(2) A failure to post a copy of the establishment's annual summary may result in the issuance of citations and assessment of penalties pursuant to sections 9 and 17 of the Act.

[37 FR 763, January 18, 1972, effective February 17, 1972]

§ 1904.6 Retention of records.

Records provided for in §§ 1904.2, 1904.4, and 1904.5 (including form OSHA No. 200 and its predecessor forms OSHA No. 100 and OSHA No. 102) shall be retained in each establishment for 5 years following the end of the year to which they relate.

[1904.6 amended at 42 FR 65164, December 30, 1977]

§ 1904.7 Access to records.

(a) Each employer shall provide, upon request, records provided for in §§ 1904.2, 1904.4, and 1904.5, for inspection and copying by any representative of the Secretary of Labor for the purpose of carrying out the provisions of the act, and by representatives of the Secretary of Health, Education, and Welfare during any investigation under section 20(b) of the act, or by any representative of a State accorded jurisdiction for occupational safety and health inspections or for statistical compilation under sections 18 and 24 of the act.

(b)(1) The log and summary of all recordable occupational injuries and illnesses (OSHA No. 200) (the log) provided for in § 1904.2 shall, upon request, be made available by the employer to any employee, former employee, and to their representatives for examination and copying in a reasonable manner and at reasonable times. The employee, former employee, and their representatives shall have access to the log for any establishment in which the employee is or has been employed.

(2) Nothing in this section shall be deemed to preclude employees and employee representatives from collectively bargaining to obtain access to information relating to occupational injuries and illnesses in addition to the information made available under this section.

(3) Access to the log provided under this section shall pertain to all logs retained under the requirements of § 1904.6.

[1904.7 amended effective August 21, 1978, at 43 FR 31324, July 21, 1978]

§ 1904.8 Reporting of fatality or multiple hospitalization accidents.

Within 48 hours after the occurrence of an employment accident which is fatal to one or more employees or which results in hospitalization of five or more employees, the employer of any employees so injured or killed shall report the accident either orally or in writing to the nearest office of the Area Director of the Occupational Safety and Health Administration, U.S. Department of Labor. The reporting may be by telephone or telegraph. The report shall relate the circumstances of the accident, the number of fatalities, and the extent of any injuries. The Area Director may require such additional reports, in writing or otherwise, as he deems necessary, concerning the accident.

§ 1904.9 Initials—falsification—failure to keep records or reports.

(a) Section 17(g) of the Act provides that "Whoever knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this Act shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment, for not more than 6 months or both."

(b) Failure to maintain records or file reports required by this part, or in the details required by forms and instructions issued under this part, may result in the issuance of citations and assessment of penalties as provided for in sections 9, 10, and 17 of the Act.

[37 FR 736, January 18, 1972]

§ 1904.10 Recordkeeping under approved State plans.

Records maintained by an employer and reports submitted pursuant to, and in accordance with the requirements of an approved State plan under section 18 of the act shall be regarded as compliance with this Part 1904.

§ 1904.11 Change of ownership.

Where an establishment has changed ownership, the employer shall be responsible for maintaining records and filing reports only for that period of the year during which he owned such establishment. However, in the case of any change in ownership, the employer shall preserve those records, if any, of the prior ownership which are required to be kept under this part. These records shall be retained at each establishment to which they relate, for the period, or remainder thereof, required under § 1904.6.

§ 1904.12 Definitions.

(a) "Act" means the Williams-Steiger Occupational Safety and Health Act of 1970 (84 Stat. 1590 et seq., 29 U.S.C. 651 et seq.).

(b) The definitions and interpretations contained in section (2) of the Act shall be applicable to such terms when used in this Part 1904.

(c) "Recordable occupational injuries or illnesses" are any occupational injuries or illnesses which result in:

(1) Fatalities, regardless of the time between the injury and death, or the length of the illness; or

(2) Lost workday cases, other than fatalities, that result in lost workdays; or

(3) Nonfatal cases without lost workdays which result in transfer to another job or termination of employment, or require medical treatment (other than first aid) or involve loss of consciousness or restriction of work or motion. This category also includes any diagnosed occupational illnesses which are reported to the employer but are not classified as fatalities or lost workday cases.

(d) "Medical treatment" includes treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even though provided by a physician or registered professional personnel.

(e) "First Aid" is any one-time treatment, and any followup visit for the purpose of observation, of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care. Such one-time treatment, and followup visit for the purpose of observation, is considered first aid even though provided by a physician or registered professional personnel.

(f) "Lost workdays:" The number of days (consecutive or not) after, but not including, the day of injury or illness during which the employee would have worked but could not do so; that is, could not perform all or any part of his normal assignment during all or any part of the workday or shift, because of the occupational injury or illness.

(g)(1) "Establishment:" A single physical location where business is conducted or where services or industrial operations are performed. (For example: a factory, mill, store, hotel, restaurant, movie theater, farm, ranch, bank, sales office, warehouse, or central administrative office.) Where distinctly separate activities are performed at a single physical location (such as contract construction activities operated from the same

physical location as a lumber yard), each activity shall be treated as a separate establishment.

(2) For firms engaged in activities such as agriculture, construction, transportation, communications, and electric, gas and sanitary services, which may be physically dispersed, records may be maintained at a place to which employees report each day.

(3) Records for personnel who do not primarily report or work at a single establishment, and who are generally not supervised in their daily work, such as traveling salesmen, technicians, engineers, etc., shall be maintained at the location from which they are paid or the base from which personnel operate to carry out their activities.

[37 FR 20822, October 4, 1972, effective November 3, 1972]

§ 1904.13 Petitions for recordkeeping exceptions.

(a) *Submission of petition.* Any employer who wishes to maintain records in a manner different from that required by this part may submit a petition containing the information specified in paragraph (c) of this section to the Regional Commissioner of the Bureau of Labor Statistics wherein the establishment involved is located.

(b) *Opportunity for comment.* Affected employees or their representatives shall have an opportunity to submit written data, views, or arguments concerning the petition to the Regional Commissioner involved within 10 working days following the receipt of notice under paragraph (c) (5) of this section.

(c) *Contents of petition.* A petition filed under paragraph (a) of this section shall include:

(1) The name and address of the applicant;

(2) The address of the place or places of employment involved;

(3) Specifications of the reasons for seeking relief;

(4) A description of the different recordkeeping procedures which are proposed by the applicant;

(5) A statement that the applicant has informed his affected employees of the petition by giving a copy thereof to them or to their authorized representative and by posting a statement giving a summary of the petition and by other appropriate means. A statement posted pursuant to this subparagraph shall be posted in each establishment in the same manner that notices are required to be posted under § 1903.2(a) of this chapter. The applicant shall also state that he has informed his affected employees of their rights under paragraph (b) of this section;

(6) In the event an employer has more than one establishment he shall submit a list of the States in which such establishments are located and the number of establishments in each such State. In the further event that certain of the employer's establishments would not be affected by the petition, the employer shall identify every establishment which would be affected by the petition and give the State in which they are located.

[37 FR 736, January 18, 1972]

(d) *Referrals to Assistant Commissioner.* Whenever a Regional Director receives a petition from an employer having one or more establishments beyond the geographic boundary of his region, or a petition from a class of employers having any establishment beyond the boundary of his region, he shall refer the petition to the Assistant Commissioner for action.

(e) *Additional Notice. Conferences.* (1) In addition to the actual notice provided for in paragraph (c)(5) of this section, the Assistant Commissioner, or the Regional Director, as the case may be, may provide, or cause to be provided, such additional notice of the petition as he may deem appropriate.

(2) The Assistant Commissioner or the Regional Director, as the case may be, may also afford an opportunity to interested parties for informal conference or hearing concerning the petition.

(f) *Action.* After review of the petition, and of any comments submitted in regard thereto, and upon completion of any necessary appropriate investigation concerning the petition, if the Regional Director or the Assistant Commissioner, as the case may be, finds that the alternative procedure proposed will not hamper or interfere with the purposes of the Act and will provide equivalent information, he may grant the petition subject to such conditions as he may determine appropriate, and subject to revocation for cause.

(g) *Publication.* Whenever any relief is granted to an applicant under this Act, notice of such relief, and the reasons therefor, shall be published in the FEDERAL REGISTER.

(h) *Revocation.* Whenever any relief under this section is sought to be revoked for any failure to comply with the conditions thereof, an opportunity for informal hearing or conference shall be afforded to the employers and affected employees, or their representatives. Except in cases of willfulness or where public safety or health requires otherwise, before the commencement of any such informal proceeding, the employer shall: (1) Be notified in writing of the facts or conduct which may warrant the action; and (2) be given an opportunity to demonstrate or achieve compliance.

(i) *Compliance after submission of petitions.* The submission of a petition or any delay by the Regional Director, or the Assistant Commissioner, as the case may be, in acting upon a petition shall not relieve any employer from any obligation to comply with this part. However, the Regional Director or the Assistant Commissioner, as the case may be, shall give notice of the denial of any petition within a reasonable time.

(j) *Consultation.* There shall be consultation between the appropriate representatives of the Occupational Safety and Health Administration and the Bureau of Labor Statistics in order to insure the effective implementation of this section.

§ 1904.14 Employees not in fixed establishments.

Employers of employees engaged in physically dispersed operations such as occur in construction, installation, repair or service activities who do not report to any fixed establishment on a regular basis but are subject to common supervision may satisfy the provisions of §§ 1904.2, 1904.4, and 1904.6 with respect to such employees by:

(a) Maintaining the required records for each operation or group of operations which is subject to common supervision (field superintendent, field supervisor, etc.) in an established central place;

(b) Having the address and telephone number of the central place available at each worksite; and

(c) Having personnel available at the central place during normal business hours to provide information from the records maintained there by telephone and by mail.

[1904.14 added at 37 FR 20822, October 4, 1972, effective January 1, 1973]

§ 1904.15 Small employers.

An employer who had no more than ten (10) employees at any time during the calendar year immediately preceding the current calendar year need not comply with any of the requirements of this part except the following:

(a) Obligation to report under § 1904.8 concerning fatalities or multiple hospitalization accidents; and

(b) Obligation to maintain a log and summary of occupational injuries and illnesses under § 1904.2 and to make reports under § 1904.21 upon being notified in writing

by the Bureau of Labor Statistics that the employer has been selected to participate in a statistical survey of occupational injuries and illnesses.

[1904.15 added at 37 FR 20822, October 4, 1972, effective November 3, 1972; amended at 42 FR 38567, July 29, 1977; 42 FR 65164, December 30, 1977]

§ 1904.20 Description of statistical program.

(a) Section 24 of the Act directs the Secretary of Labor, in consultation with the Secretary of Health, Education, and Welfare, to develop and maintain a program of collection, compilation, and analysis of occupational safety and health statistics. The Commissioner of the Bureau of Labor Statistics has been delegated this authority by the Secretary of Labor. The program shall consist of periodic surveys of occupational injuries and illnesses.

[1904.20 added at 37 FR 2439, February 1, 1972; amended at 42 FR 65164, December 30, 1977]

§ 1904.21 Duties of employers.

Upon receipt of an Occupational Injuries and Illnesses Survey Form, the employer shall promptly complete the form in accordance with the instructions contained therein, and return it in accordance with the aforesaid instructions.

[1904.21 added at 37 FR 2439, February 1, 1972, amended at 42 FR 65164, December 30, 1977]

§ 1904.22 Effect of State plans.

Nothing in any State plan approved under section 18(c) of the Act shall affect the duties of employers to submit statistical report forms under § 1904.21.

[1904.22 added at 37 FR 2439, February 1, 1972]

U.S. DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

SAFETY AND HEALTH REPORT

1 INSPECTION IDENTIFICATION — CSHO NO. | REPORT NO. | FISCAL YEAR

2 AREA/REGION — AREA | REGION

3 CSHO EMPLOYED BY — FEDERAL | STATE

4 INSPECTION DATE — MO. | DAY | YR.

5 EMPLOYER DATA
A PRIMARY SIC | SECONDARY SIC
B ESTABLISHMENT CODE
C NAME
D STREET ADDRESS OR BUILDING
E CITY CODE | STATE CODE | COUNTY CODE | ZIP CODE
FROM OSHA'S GEOGRAPHICAL LOCATION CODES

F. CITY | COUNTY | STATE
G. TELEPHONE NO.
H. TYPE OF LEGAL ENTITY
I. ADDRESS OF PRINCIPAL OFFICE
J. TYPE OF BUSINESS
K. FULL NAME OF ESTABLISHMENT
L. HOME ADDRESS OF SOLE OWNER OR PARTNER

M. CHECK THIS BLOCK IF EMPLOYER HAS CLASSIFIED CONTRACTS

N. MAIN PLANT | BRANCH PLANT | ONLY PLANT

O. SECONDARY COVERAGE (Check Appropriate Box Only)
FEA | SEA | CSA | MAB | OTHER

7 NUMBER OF EMPLOYEES
A EMPLOYED IN ESTAB. | B AFFECTED BY HAZ.
C LARGEST SHIFT — MALE — FEMALE
D CONTROLLED BY EMPLOYER — 1-10 | 11-25 | 26-50

8 PURPOSE OF INSPECTION (Check One)
A TYPE OF INSPECTION
ACCIDENT | COMPLAINT | GENERAL SCHEDULE | FOLLOWUP
B SPECIAL PROGRAMS
TID | Fmad | OTHER
9 FOLLOWUP INSPECTION ONLY RELATED INITIAL INSPECTION
CSHO NO. | REPORT NO. | FISCAL YEAR

10 ACCIDENT INVESTIGATION ONLY
A DATE ACCIDENT OCCURRED — MO. | DAY | YR.
B CASUALTY DATA
NUMBER FATALITIES | NO. INJURED Non Fmad | TOTAL DAYS LOST | NO. INJURED Fmad
C COST TO ESTIMATED
PROCESS INTERRUPTION | PROPERTY DAMAGE

11 NUMBER OF HEALTH SAMPLES
AIR | OTHER | OTHER TYPE

12 NUMBER INJURY OR HEALTH HAZARDS NOT COVERED BY A STANDARD (Submit on OSHA 9 Form for Each)

13 EVALUATION OF SAFETY AND HEALTH PROGRAM
EFFECTIVE | AVERAGE | INEFFECTIVE

14 CHECK THIS BOX IF AN EMPLOYEE REPRESENTATIVE EXERCISED WALKAROUND PRIVILEGES DURING THE INSPECTION

15 ADVANCE NOTICE
GIVEN | ADVERSELY AFFECTED INSPECTION | EMPLOYEE GIVEN ADVANCE NOTICE ADVERSELY AFFECTED INSPECTION

16 CHECK APPROPRIATE BOX IF A PREVIOUS OSHA INSPECTION HAS BEEN MADE IN THIS ESTABLISHMENT

17 CHECK THIS BOX IF THE EMPLOYER IS FOUND TO BE IN COMPLIANCE

18. DESCRIPTION OF WORKSITE
A. CONSTRUCTION OF BUILDINGS OR TYPE OF WORK AREA
B. TYPE OF FIRE PROTECTION
C. DESCRIPTION OF PROCESSES (Raw materials, major processes, and products, etc.)

19 SECONDARY COVERAGE – LIST FEDERAL CONTRACT NUMBER, AND PROFS (Where or OSHA-NO) _____

20. A. DOES EMPLOYER MAINTAIN INJURY AND ILLNESS RECORDS AS REQUIRED? ☐ YES ☐ NO
B. WERE POSTING AND INSTRUCTIONS PROVIDED BY _____ ☐ YES ☐ NO
C. DOES EMPLOYER COMPLY WITH THE POSTING REQUIREMENTS? _____ ☐ YES ☐ NO
IF "NO" LIST AS A VIOLATION ON OSHA 1A.

21. CSHO'S SIGNATURE | DATE
22. AREA DIRECTOR'S SIGNATURE | DATE

U.S. GOVERNMENT PRINTING OFFICE 1975-540-777

Form OSHA-1
REV. MAY 1972

Form OSHA-1A: Compliance Worksheet

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

COMPLIANCE WORKSHEET

EMPLOYER _____

ADDRESS _____

DATE _____

1. ESTAB NO.	2. OSHA-1 NO.
3. AREA	4. REGION

5. Page _____ of _____

6. LOCATION	7. APPARENT VIOLATION SI NOTED	8. COMMENTS

GPO 810-[illegible]

Form OSHA-1A
AUG. 1971

U.S. DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

Page ___ of ___

FATALITY/CATASTROPHE EVENT INVESTIGATION REPORT

REPORT IDENTIFICATION

1 Region | 2 Area | 3 OSHA Identification: CSHO Year, Report Year, Fiscal Year | 4 Fatality/Catastrophe Event Report Number | 5 Date of Inspection: Mo, Day, Yr

INVESTIGATION FINDINGS

7 Fatality/Catastrophe Event Category | 8 Exact Location of Event Site | 9 Exact Location of Event Site | 15 Employer Contact

Number Casualties: 11 Fatalities, 12 Hospitalized Injuries, 13 Non Hospitalized Injuries | 14 Estimated Cost of Prosecution/Investigation | 15 Estimated Cost of Property Destroyed or Damaged | 16 Weather at Time of Event

17a Name of Injured/Deceased

Badge No. | Sex (M or F) | Age | Disp. Code | Nature of Injury | Part of Body | Source of Injury | Event Type | Cont. Event Factor | Cont. Human Factor | Task Assn. | Hrs Sub

17b Name of Injured/Deceased

Badge No. | Sex (M or F) | Age | Disp. Code | Nature of Injury | Part of Body | Source of Injury | Event Type | Cont. Event Factor | Cont. Human Factor | Task Assn. | Hrs Sub

17c. Name of Injured/Deceased

Badge No. | Sex (M or F) | Age | Disp. Code | Nature of Injury | Part of Body | Source of Injury | Event Type | Cont. Event Factor | Cont. Human Factor | Task Assn. | Hrs Sub

17d. Name of Injured/Deceased

Badge No. | Sex (M or F) | Age | Disp. Code | Nature of Injury | Part of Body | Source of Injury | Event Type | Cont. Event Factor | Cont. Human Factor | Task Assn. | Hrs Sub

17e. Name of Injured/Deceased

Badge No. | Sex (M or F) | Age | Disp. Code | Nature of Injury | Part of Body | Source of Injury | Event Type | Cont. Event Factor | Cont. Human Factor | Task Assn. | Hrs Sub

18. Equipment, Machines, Materials Involved (be specific about names, size, serial numbers, locations, etc.)

19. Operations Being Performed (include who, what, and where)

20. Describe the Details of the Occurrence of Event (what happened and why)

21. Witnesses (Eyewitnesses) (Non-Witnesses) to Preceding Circumstances). List and Attach Statements.

22. Did violation of a standard cause or contribute to occurrence of event? (If yes, list standard(s) cited)
☐ Yes ☐ No

23. Do you recommend a new or revised standard? (If yes, attach OSHA-91)
☐ Yes ☐ No

GPO 865-475

Signature of CSHO

Form OSHA-4
Rev. July 1973

U.S. DEPARTMENT OF LABOR

Occupational Safety and Health Administration

NOTICE

of

ALLEGED IMMINENT DANGER

(TO EMPLOYER(S) AND EMPLOYEES)

An inspection has been conducted of a place of employment in which employees of employer(s) are working, located at _____

and described as follows _____

On the basis of this inspection, it is alleged that an imminent danger to employees exists in that A DANGER EXISTS WHICH COULD REASONABLY BE EXPECTED TO CAUSE DEATH OR SERIOUS PHYSICAL HARM IMMEDIATELY or before the imminence of such danger can be eliminated through the enforcement procedures otherwise provided by the Occupational Safety and Health Act of 1970 (29 U.S.C. 651 et seq.), hereinafter referred to as the Act.

In accordance with the provisions of Section 13(c) of the Act, the employer(s) and all employees affected by these conditions constituting an alleged imminent danger are being informed of the possible danger by the posting of this Notice of Alleged Imminent Danger near the condition(s) described below. The employer(s) and all affected employees are likewise being informed that it will be recommended to the Secretary of Labor that he seek the judicial relief provided by the Act.

The Act provides that the United States District Court is empowered upon petition of the Secretary of Labor, to order the employer(s) to take such action as is necessary to avoid, correct, or remove this alleged imminent danger, including, where necessary, the removal of employees from the dangerous area.

This notice does not constitute a Citation of alleged violations or a Notification of Proposed Penalty. Appropriate Citations or Notification of Proposed Penalty will be issued to the employer(s).

DESCRIPTION OF ALLEGED IMMINENT DANGER

This Notice of Alleged Imminent Danger must remain posted until removed by a representative of the Occupational Safety and Health Administration.

Signed and dated at _____, _____

_____, this _____ day of _____, 19___

_____

Compliance Safety and Health Officer
Occupational Safety and Health Administration
U. S. Department of Labor

GPO 830-697

Form OSHA-8
Rev. Nov. 1972

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

AREA	REGION	

1.

TO:
2.

Subject: Citation(s) for Alleged Occupational Safety and Health Violation(s)

An inspection of a place of employment has revealed conditions which we believe do not comply with the provisions of the Occupational Safety and Health Act of 1970, (29 U.S.C. 651 *et seq.*). The nature of such alleged violation(s) is described in the enclosed citation(s) with references to applicable standards, rules, regulations and provisions of the said Act. These conditions must be corrected on or before the date shown to the right of each alleged violation therein.

The Act requires that a copy of the enclosed citation(s) be prominently posted "in a conspicuous place upon receipt" at or near each place a violation referred to in the citation occurred. It must remain posted until all violations cited therein are corrected, or for 3 working days*, whichever period is longer. A sufficient number of copies of the attached citation(s) should be prepared to permit posting in accordance with the requirements of the Act. The Act provides for penalties for violation of the posting requirements.

You are hereby notified, or will soon be notified, whether or not penalty(ies) will be proposed as a result of the cited violation(s). You have the right to contest any or all parts of either the citation(s) or the proposed penalty(ies) before the Occupational Safety and Health Review Commission. The Review Commission is an independent agency with authority to issue decisions regarding citation(s) and proposed penalty(ies). If you do contest, you should submit a letter to the Area Director at the address shown above within 15 working days* after receipt of the certified mail notice regarding proposed penalty(ies). If you fail to contest within the 15 working day period, the citation(s) and the penalty(ies) as proposed, shall be deemed to be a final order of the Review Commission and not subject to review by any court or agency.

If an employer contests the citation, the abatement period specified therein does not begin to run until the date of the Commission's final order in the case *PROVIDED* the employer initiated his contest in good faith and not solely for delay or avoidance of penalties.

You have a right to request a discussion with the Area Director concerning any results of the inspection (abatement dates, citations, penalties, etc.). Please direct correspondence to, or call, the Area Director at the address shown at the top of this letter. A request for an informal discussion cannot extend the 15 working day period allowed for filing a notice of contest. Therefore, a request for an informal discussion should be brought to the attention of the Area Director prior to the end of the 15 working days allowed for filing a notice of contest, preferably as soon as possible.

An employee or representative of employees may file a notice (letter) to contest the reasonableness of the time stated in the citation for the abatement of the alleged violation(s).

Alleged violations that are not contested shall be corrected within the abatement period specified in the citation. A followup inspection may be made for the purpose of ascertaining that the employer has posted the citation(s) as required by the Act and corrected the alleged violations. Failure to correct an alleged violation within the abatement period may result in further proposed penalties for each day the alleged violation has not been corrected. Timely correction of an alleged violation does not affect the initial proposed penalty.

Correction of alleged violations which have an abatement period of 30 days or less should be reported in writing to the Area Director promptly upon correction. Reports of corrections should show specific corrective action on each such alleged violation and the date of such action. On alleged violations having an abatement date of more than 30 days, a written progress report should be submitted each 30 days. The progress report should detail what has been done, what remains to be done, and the time needed to fully abate each such violation. When the alleged violation is fully abated, the Area Director should be so advised.

The Act provides that whoever knowingly gives false information is subject to a fine up to $10,000, imprisonment up to 6 months, or both.

If you wish additional information, you may direct such request to the undersigned at the address shown above.

*Under the Occupational Safety and Health Act, the term "Working Day" means Mondays through Fridays but does not include Saturdays, Sundays, or Federal Holidays.

3. Citation(s) Enclosed

Quantity		Pages
_____	Nonserious	_____
_____	Serious	_____
_____	Willful and/or Repeated	_____

4. Notification of Proposed Penalty enclosed
☐ Yes ☐ No

U.S. Department of Labor
by Area Director

5. _____

Date _____ 19 _____

OSHA-2C
Rev. Sept. 1978

Best Available Document

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

CSHO NO.	OSHA-1 NO.	FY
AREA	REGION	

1.

CITATION

TO: 2.

3. Citation Number _____

4. Page _____ of 5. _____

6.

TYPE OF ALLEGED VIOLATION(S):

7.

An inspection was made on _____ 19 ___ of a place of employment located at:

8.

9. _____ and described as follows:

On the basis of the inspection it is alleged that you have violated the Occupational Safety and Health Act of 1970, 29 U.S.C. 651 *et seq.*, in the following respects:

10. Item number	11. Standard, regulation or section of the Act allegedly violated	12. Description of alleged violation	13. Date by which alleged violation must be corrected

The law requires that a copy of this citation shall be prominently posted in a conspicuous place at or near each place that an alleged violation referred to in the citation occurred. The citation must remain posted until all alleged violations cited therein are corrected, or for 3 working days*, whichever period is longer.

RIGHTS OF EMPLOYEES

Any employee or representative of employees who believes that any period of time fixed in this citation for the correction of a violation is unreasonable has the right to contest such fixing of the correction by submitting a letter to the U.S. Department of Labor at the address shown above within 15 working days* of the issuance of this citation.

"No person shall discharge or in any manner discriminate against any employee because such employee has filed any complaint or instituted or caused to be instituted any proceeding under or related to this Act or has testified or is about to testify in such proceeding or because of the exercise by such employee on behalf of himself or others of any right afforded by this Act." Sec. 11(c) (1) of the Occupational Safety and Health Act of 1970, 29 U.S.C. (651, 660(c)(1).

*Under the Occupational Safety and Health Act, the term "Working Day" means Mondays through Fridays but does not include Saturdays, Sundays, or Federal Holidays.

14.

Area Director's Signature _____ Issuance Date _____ 19 _____

(NOTICE: Additional Important Information On Reverse Side)

Form OSHA-2

The issuance of a citation does not constitute a finding that a violation of the Act has occurred unless there is a failure to contest as provided for in the Act or, if contested, unless the citation is affirmed by the Occupational Safety and Health Review Commission.

DESCRIPTIONS OF TYPES OF VIOLATIONS

NONSERIOUS violation is one which is not a serious violation within the meaning of the Act but which has a direct or immediate relationship to occupational safety and health.

SERIOUS violation, according to the Act, "shall be deemed to exist in a place of employment if there is a substantial probability that death or serious physical harm could result from a condition which exists, or from one or more practices, means, methods, operations, or processes which have been adopted or are in use, in such place of employment unless the employer did not, and could not with the exercise of reasonable diligence, know of the presence of the violation."

WILLFUL violation exists under the Act where the evidence shows (1) that the employer committed an intentional and knowing violation of the Act and the employer is conscious of the fact that what he is doing constitutes a violation of the Act, or (2) even though the employer was not consciously violating the Act, he was aware that a hazardous condition existed and made no reasonable effort to eliminate the condition.

REPEATED violation exists where the employer has abated an earlier violation, for which a citation was issued, and, upon later inspection, is found to have committed the same violation.

Correspondence, or other forms of communication, relative to this citation should be directed to the office shown at the top of front page of this form. In correspondence, please refer to the OSHA-1 No. which appears in the upper right-hand corner of front page of this citation.

GPO 000-745

Reverse of OSHA-2

Best Available Document

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

CSHO NO.	OSHA-1 NO	FY
AREA	REGION	

1.

TO:
2.

3.
Date

THERE IS NO REQUIREMENT THAT THIS NOTIFICATION BE POSTED.

NOTIFICATION OF PROPOSED PENALTY

This notification and the penalty(ies) proposed by the Secretary of Labor shall be deemed to be the final order of the Occupational Safety and Health Review Commission (an independent agency with authority to review decisions respecting citations and proposed penalties) and not subject to review by any court or agency unless, within 15 working days from the date of receipt of this notification, you submit a letter of contest. The letter of contest should be mailed or otherwise delivered to the Area Director named below at the address shown at the top of this notification. If no notice of contest is filed within the 15 working day period the proposed penalty(ies) becomes final and is immediately payable.

Payment of all penalties shown is to be made by check or money order payable to the order of "Occupational Safety and Health-Labor". Payment of penalties should be remitted to the Area Director at the address shown above.

Section 17(l) of the Act states: "Civil penalties owed under this Act shall be paid into the Treasury of the United States and shall accrue to the United States and may be recovered in a civil action in the name of the United States brought in the United States district court for the district where the violation is alleged to have occurred or where the employer has its principal office."

4.
On the _____ day of _____, 19 __, a citation(s) was issued to you in accordance with the provisions of Section 9(a) of the Occupational Safety and Health Act of 1970 (84 Stat. 1601; 29 U.S.C. 651, et seq.) hereinafter referred to as the Act. You were then notified of certain alleged violations of the Act, as specified in that citation(s).

YOU ARE HEREBY NOTIFIED that pursuant to the provisions of Section 10(a) of the Act, the penalty(ies) set forth below is/are being proposed, based on the citation(s).

5. _____ VIOLATIONS

5A. Citation No.	5B. Item No.	5C. Proposed Penalty

6. _____ VIOLATIONS

6A. Citation No.	6B. Item No.	6C. Proposed Penalty

7.
Total Proposed Penalty for All Alleged Violations $ _____

Area Director
8.

Date
_____ 19 ____

The proposed penalty for Nonserious Violations of safety and health standards reflects a 50 percent adjustment factor for corrective action to be taken within the period prescribed in the citation. If a particular alleged violation is not corrected within this period, the 50 percent adjustment will be added to such other penalty as may subsequently be proposed for failure to correct a violation within the abatement period. No abatement credit is allowed for violations of recordkeeping or posting requirements.

GPO 838-036

OSHA-3
Rev. Nov. 1972

Best Available Document

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

CSHO NO.	OSHA-1 NO.
AREA	REGION

CITATION FOR SERIOUS VIOLATION*

Citation Number _____ Date Issued _____

EMPLOYER _____

ADDRESS (Street _____

(City _____ State _____ Zip _____

An inspection of a workplace under your ownership, operation, or control located at _____ and described as follows _____ has been conducted. On the basis of the inspection it is alleged that you have violated the Occupational Safety and Health Act of 1970, 29 U.S.C. 651, in the following respects:

Standard or regulation allegedly violated	Description of alleged violation	Date on which alleged violation must be corrected

Area Director's Signature _____

The issuance of a citation does not constitute a finding that a violation of the Act has occurred unless there is a failure to contest as provided for in the Act or, if contested, unless the citation is affirmed by the Occupational Safety and Health Review Commission.

RIGHTS OF EMPLOYEES

Any employee or representative of employees who believes that any period of time fixed in this citation for the correction of a violation is unreasonable has the right to contest such time for correction by filing a notice with the U.S. Department of Labor at the address shown above within 15 working days of the receipt by the employer of notice of proposed penalty or notice that no penalty is being proposed.

"No person shall discharge or in any manner discriminate against any employee because such employee has filed any complaint or instituted or caused to be instituted any proceeding under or related to this Act or has testified or is about to testify in such proceeding or because of the exercise by such employee on behalf of himself or others of any right afforded by this Act." Sec. 11 (c)(1) of the Occupational Safety and Health Act of 1970, 29 U.S.C. 651.

The law requires that a copy of the enclosed citation(s) "shall be prominently posted" in a conspicuous place "at or near each place a violation referred to in the citation occurred." It must remain posted until all violations cited therein are corrected, or for 3 working days, whichever period is longer.

* A serious violation, according to the Act "shall be deemed to exist in a place of employment if there is a substantial probability that death or serious physical harm could result from a condition which exists, or from one or more practices, means, methods, operations, or processes which have been adopted or are in use, in such place of employment unless the employer did not, and could not with the exercise of reasonable diligence, know of the presence of the violation." Sec. 17(k).

Form OSHA-2A

Best Available Document

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

CSHO NO.	OSHA-1 NO.
AREA	REGION
NO.	DATE

DE MINIMIS NOTICE

TO: _____

During a safety and health inspection of your workplace on _____ 19___ , located at _____ _____ _____, a Compliance Safety and Health Officer, U.S. Department of Labor, noted the following alleged de minimis violations of standards or regulations issued under the Occupational Safety and Health Act of 1970, 29 U.S.C. 651. Although these alleged violations do not have a direct or immediate relationship to safety or health, they should be corrected in order to improve your safety and health program. There is no requirement in the Act that this notice be posted.

Item No.	Condition

Area Director's Signature _____

GPO 818-810

Form OSHA-2B
Aug. 1971

Best Available Document

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

CSHO NO.	OSHA-1 NO.	FY
AHA	NE CHKR	

1.

TO:
2.

NOTIFICATION
OF FAILURE TO CORRECT ALLEGED VIOLATION
AND OF PROPOSED ADDITIONAL PENALTY

On the 3. _____ day of _____, 19____, a Citation(s) was (were) issued to you in accordance with the provisions of section 9(a) of the Occupational Safety and Health Act of 1970 (84 Stat. 1601; 29 U.S.C. 651, *et seq.*), hereinafter referred to as the Act, notifying you of certain alleged violations of the Act and the dates by which they were to be corrected.

Based upon reinspection conducted on 4. _____, it is alleged that you have failed to correct the alleged violations specified below within the times prescribed:

5. SERIOUS VIOLATIONS:

5A. Citation No.	5B. Number of Days Failed to Correct	X	5C. Proposed Daily Additional Penalty	=	5D. Proposed Total Additional Penalty For Failure To Correct

6. NONSERIOUS VIOLATIONS:

6A. Citation No. and Item No.	6B. Number of Days Failed to Correct	X	6C. Proposed Daily Additional Penalty	=	6D. Proposed Total Daily Additional Penalty	+	6E. Previously Allowed Abatement Credit	=	6F. Proposed Total Additional Penalty For Failure to Correct

7. Area Director _____ 8. Date _____ 19____

(NOTICE: Additional Important Information On Reverse Side)

Form OSHA-3A
Rev. Sept. 1972

The proposed penalty for failure to correct each alleged violation is computed by multiplying a proposed daily penalty times the number of days the alleged violation remained uncorrected, counting from the prescribed abatement date to the date of reinspection. In the case of nonserious violations, the 50 percent adjustment for timely abatement, which had been deducted in calculating the initial proposed penalty, has been added to the proposed penalty for failure to correct.

Additional penalties may be proposed on a daily basis for each violation that is allowed to continue unabated beyond the date of reinspection appearing on the front of this form. You are to notify the Area Director named on the front of this form of the date and nature of any abatement action which you have taken.

The payment of penalties is to be made by check or money order, payable to the order of "Occupational Safety and Health-Labor". Remit to the Area Director whose address appears on the front of this notification.

YOU ARE FURTHER NOTIFIED that this notification and the penalties, as proposed, shall be deemed to be the final order of the Occupational Safety and Health Review Commission and not subject to review by any court or agency unless, within 15 working days from the date of receipt of this notification, you notify in writing the Area Director named on the front of this notification that you intend to contest this notification or the proposed additional penalty before the Review Commission. The Review Commission is an independent agency with authority to issue decisions respecting citations and proposed penalties including this "Notification of Failure to Correct Alleged Violation and of Proposed Additional Penalty".

There is no requirement that this notification be posted.

Reverse of OSHA-3A

BEST AVAILABLE COPY

U.S. DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

Form Approved
OMB No. 0600-0149

For Official Use Only		
Area	Date Received	Time
Region	Received By	

OSHA-7

COMPLAINT

This form is provided for the assistance of any complainant and is not intended to constitute the exclusive means by which a complaint may be registered with the U.S. Department of Labor.

The undersigned *(check one)*

☐ Employee ☐ Representative of employees ☐ Other *(specify)* _____

believes that a violation at the following place of employment of an occupational safety or health standard exists which is a job safety or health hazard.

Does this hazard(s) immediately threaten death or serious physical harm? ☐ Yes ☐ No

Employer's Name _____

Address (Street _____ Telephone _____
(City _____ State _____ Zip Code _____

1. Kind of business _____

2. Specify the particular building or workshop where the alleged violation is located, including address. _____

3. Specify the name and phone number of employer's agent(s) in charge.

4. Describe briefly the hazard which exists there including the approximate number of employees exposed to or threatened by such hazard.

(Continue on reverse side if necessary)

Sec. 8(f)(1) of the Williams-Steiger Occupational Safety and Health Act, 29 U.S.C. 651, provides as follows: Any employees or representative of employees who believe that a violation of a safety or health standard exists that threatens physical harm, or that an imminent danger exists, may request an inspection by giving notice to the Secretary or his authorized representative of such violation or danger. Any such notice shall be reduced to writing, shall set forth with reasonable particularity the grounds for the notice, and shall be signed by the employees or representative of employees, and a copy shall be provided the employer or his agent no later than at the time of inspection, except that, upon request of the person giving such notice, his name and the names of individual employees referred to therein shall not appear in such copy or on any record published, released, or made available pursuant to subsection (g) of this section. If upon receipt of such notification the Secretary determines there are reasonable grounds to believe that such violation or danger exists, he shall make a special inspection in accordance with the provisions of this section as soon as practicable, to determine if such violation or danger exists. If the Secretary determines there are no reasonable grounds to believe that a violation or danger exists he shall notify the employees or representative of the employees in writing of such determination.

5. List by number and/or name the particular standard *(or standards)* issued by the Department of Labor which you claim has been violated, if known.

6. (a) To your knowledge has this violation been considered previously by any Government agency? _____

(b) If so, please state the name of the agency _____

(c) and, the approximate date it was so considered. _____

7. (a) Is this complaint, or a complaint alleging a similar violation, being filed with any other Government agency?

(b) If so, give the name and address of each. _____

8. (a) To your knowledge, has this violation been the subject of any union/management grievance or have you *(or anyone you know)* otherwise called it to the attention of, or discussed it with, the employer or any representative thereof? _____

(b) If so, please give the results thereof, including any efforts by management to correct the violation. _____

9. Please indicate your desire:

☐ I do not want my name revealed to the employer.

☐ My name may be revealed to the employer.

Continue Item 4 here, if additional space is needed.

Signature _____ Date _____

Typed or Printed Name _____

If you are a representative of employees, state the name of your organization _____

Address (Street _____ Telephone _____
(City _____ State _____ Zip Code _____

GPO 811-003

BEST AVAILABLE COPY