

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS**
(As Amended, 1989)

Department of Labor and Employment
Philippines

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BUREAU OF WORKING CONDITIONS
DEPARTMENT OF LABOR AND EMPLOYMENT
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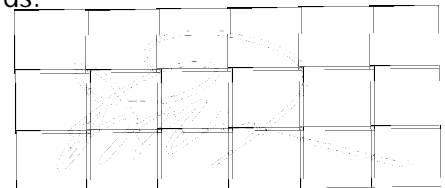
FOREWORD

The Occupational Safety and Health Standards was formulated in 1978 in compliance with the constitutional mandate to safeguard the worker's social and economic well-being as well as his physical safety and health. Adopted through the tested democratic machinery of tripartism, the 1978 Standards is considered as a landmark in Philippine labor and social legislation.

The advent of industrialization and the continuing introduction of technological innovations in our country today have, however, correspondingly increased the number and types of occupational hazards that our workers are exposed to. Viewed against this backdrop, it became imperative that the Standards be revised to make it truly responsive to the workers' needs.

Joint efforts exerted by the Bureau of Working Conditions, the ILO Manila Office and the tripartite sectors bore fruit in August 1989 when the revisions were finally approved by the Secretary of Labor and Employment pursuant to his authority under Article 162 of the Labor Code of the Philippines. With the latest improvements in the Standards, all establishments covered will now be provided with a better tool for promoting and maintaining a safe and conducive working environment.

I therefore urge all sectors concerned-whether they be in labor, management, government or the academe-to extend their full support to achieve the noble objectives of the Occupational Safety and Health Standards.

A rectangular box containing a handwritten signature in blue ink. The signature is written in a cursive style and appears to read 'RUBEN D. TORRES'.

RUBEN D. TORRES
Secretary

03 July 1990

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OCCUPATIONAL SAFETY AND HEALTH STANDARDS

By virtue of the powers vested in the Department of Labor and Employment under Article 162 of the Labor Code of the Philippines, this Occupational Safety and Health Standards is hereby promulgated for the guidance and compliance of all concerned. This body of standards rules and regulations shall hereafter be referred to as "Standards"

RULE 1000 GENERAL PROVISION

1001 : Purpose and Scope:

- (1) The objective of this issuance is to protect every workingman against the dangers of injury, sickness or death through safe and healthful working conditions, thereby assuring the conservation of valuable manpower resources and the prevention of loss or damage to lives and properties, consistent with national development goals and with the State's commitment for the total development of every worker as a complete human being.
- (2) This Standards shall apply to all places of employment except as otherwise provided in this Standard.

1002 : Definitions:

For purposes of this Standards and except as otherwise indicated, the following shall mean:

- (1) "*Employer*" includes any person acting directly or indirectly in the interest of an employer, in relation to an employee, and shall include government-owned or controlled corporations and institutions, as well as non-profit private institutions or organizations.
- (2) "*Employee*" shall mean any person hired, permitted or suffered to work by an employer.
- (3) "*Industrial Enterprise*" shall mean any workplace, permanent or temporary, including any building or collection of buildings, shed, structure, yard or any other place, where permanently or temporarily one or more persons are employed in any manufacturing of goods or products processing and any other activity similar and incidental thereto.
- (4) "*Agricultural Enterprise*" shall include forestry and logging operations, farming in all its branches, and among other things, includes cultivation and tillage of the soil, dairying, the production, cultivation, growing and harvesting of any agricultural and horticultural commodities, the raising of livestock and poultry, and any practice performed by a farmer on a farm as an incident to or in conjunction with such farming operations, but does not include the manufacturing or processing of sugar, coconut, abaca, tobacco, pineapple or other farm products.
- (5) "*Dry Dock*" shall include premises where work is performed on shore or on board ships in which ships or vessels are constructed, repaired, refitted, finished or broken up and housed.
- (6) "*Health*" shall connote a sound state of the body and mind of the worker, which enables him to perform his job normally, in a state of well-being.
- (7) "*Safe or Safety*" shall refer to the physical or environmental conditions of work or employment, which substantially comply with the provisions of this Standards.
- (8) "*Work Accident*" shall mean an unplanned or unexpected occurrence that may or may not result in personal injury, property damage, work stoppage or interference or any combination thereof, which arises out of and in the course of employment.
- (9) "*Work Injury*" shall mean any injury or occupational illness suffered by a person, which arises out of or in the course of his employment.

- (10) "*Occupational Illness*" shall mean any illness caused by environmental factors, the exposure to which is characterized or peculiar to a particular process, trade or occupation and to which an employee or worker is not ordinarily subjected to or exposed outside of or away from such employment.
- (11) "*Recognized Hazards*" are those which do not require technical or testing devices to detect.
- (12) "*Workplace*" means the office, premises or work site, where the workers are habitually employed and shall include the office or place where the workers, who have no fixed or definite work site, regularly report for assignment in the course of their employment.
- (13) "*Approved*" shall mean acceptable to the Secretary in writing after proper examination showing compliance with prescribed Standards.
- (14) "*Code*" shall mean the Labor Code P.D. 442 as amended.
- (15) "*Department*" shall mean the Department of Labor and Employment.
- (16) "*Secretary*" shall mean the Secretary of Labor and Employment.
- (17) "*Bureau*" shall mean the Bureau of Working Conditions.
- (18) "*Director*" shall mean the Director of the Bureau of Working Conditions.
- (19) "*Standards*" shall mean the Occupational Safety and Health Standards.
- (20) "*Enforcement officer*" shall mean the industrial safety engineer, the labor regulation officer, or any duly authorized representatives of the Secretary to enforce this Standards.
- (21) "*Authorized Representative*" shall mean and include chartered cities, municipalities, employees or officials of other government agencies empowered by the Secretary of Labor and Employment to enforce the provisions of this Standards.

1003 : Administration and Enforcement:

1003.01 : Department of Labor and Employment:

- (1) The Department of Labor and Employment shall administer and enforce the provisions of this Standards.
- (2) Every employer shall give to the Secretary or his duly authorized representative access to its premises and records for the purpose of determining compliance with the provisions of this Standards.
- (3) Every establishment or place of employment shall be inspected at least once a year to determine compliance with the provisions of this Standards. Special inspection visits, however, may be authorized by the Regional Labor Office or as authorized under Rule 1980 of this Standards, to investigate accidents, occupational illnesses or dangerous occurrences, especially those resulting in permanent total disability or death, to conduct surveys of working conditions requested by the Bureau for the purpose of evaluating and assessing environmental contaminants and physical conditions or to conduct investigations, inspections or follow-up inspections upon request of an employer, worker or a labor union of the establishment.
- (4) The enforcement officer shall determine reasonable periods of compliance with recommendations depending on the gravity of the hazards needing corrections or the period needed to come into compliance with the order.

1003.02 : Application to Other Places of Employment

When a condition of employment in workplaces not specifically covered by this Standards is the subject of complaints, the provision of this Standards shall apply.

1003.03 : Application to Transportation:

Establishments engaged in land, sea and air transportation are not covered except their garages, dry docks, port hangars, maintenance and repair shops.

1003.04 : Application to Mines:

The activities of a lessee regarding safety of mining installations, surface or underground, within the mining claim or lease, including mine safety, mineral conservation and problem of pollution in establishments or workplaces falling under "Mining Industry" as classified by the National Economic and Development Authority are not covered by this Standards.

1003.05 : Application to Chartered Cities and Municipalities:

The Department of Labor and Employment shall be solely responsible for the administration and enforcement of this Standards in all places of employment except as provided in Rule 1980 of this Standards.

1004 : Special Inspection, Investigation and Review:

- (1) Any worker or representative of workers or any concerned person who believes that a violation of any provision of this Standards threatens physical harm or imposes imminent danger to life, may request an inspection by giving full particulars or details regarding such violation or danger to the Regional Labor Office or duly authorized representative. If upon appraisal of such notification, the Regional Office or its duly authorized representative finds reasonable ground to believe that a violation has really been committed or danger exists, a special inspection or investigation shall be conducted immediately. The complainant shall be notified in writing of the outcome of such investigation or inspection, immediately upon its completion.
- (2) The Secretary of Labor and Employment on his own initiative or on complaints of the workers, shall review any failure or refusal of the Regional Labor Office or duly authorized representative to order compliance or issue recommendation with respect to such complaint or reported violation.

1005 : Duties of Employers, Workers and other Persons:

- (1) Each employer covered by the provisions of this Standards shall:
 - a. furnish his workers a place of employment free from hazardous conditions that are causing or are likely to cause death, illness or physical harm to his workers;
 - b. give complete job safety instructions to all his workers, especially to those entering the job for the first time, including those relating to the familiarization with their work environment, hazards to which the workers are exposed to and steps taken in case of emergency;
 - c. comply with the requirements of this Standards; and
 - d. use only approved devices and equipment in his workplace.

- (2) Every worker shall cooperate with the employer in carrying out the provisions of this Standards. He shall report to his supervisor any work hazard that may be discovered in his workplace.
- (3) Every worker shall make proper use of all safeguards and safety devices furnished in accordance with the provisions of this Standards for his protection and that of others, and shall follow all instructions given by the employer in compliance with the provisions of this Standards.
- (4) It shall be the duty of any person, including any builder or contractor or enforcement agent, who visits, builds, renovates, or installs devices, or conducts business in any establishment or workplace, to comply with the provisions of this Standards and all regulations of the employer issued there under as well as with other subsequent issuances of the Secretary.

1006 : Confidentiality of Trade Secrets:

All information reported to or otherwise obtained by the enforcement officer in connection with any inspection or proceedings under this Standards, which contains or might reveal a trade secret, shall be considered confidential except that such information may be revealed in any proceeding where it is required or necessary. The Secretary, the Regional Director or duly authorized representative, shall issue appropriate orders to protect the confidentiality of trade secrets.

RULE 1010 OTHER SAFETY RULES

1011 : Promulgation of Rules:

Safety and health rules may be promulgated, amended, modified, or revoked in the following manner:

- (1) The Bureau, on the basis of information submitted in writing by interested parties or on the basis of information available to it, upon determination that a Rule should be promulgated or amended in order to serve the objectives of the Code, shall draft a proposed Rule. Conformably with the principle of tripartism, the Bureau may ask the advice and assistance of individuals and organizations, private or public agencies, particularly recognized workers' and employers' organizations, having special knowledge of the proposal under consideration.
- (2) The Bureau shall prepare the proposal taking into consideration suggestions and recommendations available.
- (3) The Director shall forward the proposal to the Secretary for approval. The Secretary shall within thirty (30) days from receipt thereof act on the proposal. If rejected, same shall be returned to the Bureau with his reasons. After a reconsideration of the returned proposal, the Director shall resubmit his proposal in the manner herein outlined.
- (4) After approval of the proposal by the Secretary, the same shall be published in a newspaper of general circulation and shall take effect fifteen (15) days from the date of publication and shall become part of this Standards.

1012 : Special Rules:

1012.01: Work Conditions or Practices Not Covered by Standards:

Any specific rule applicable to a condition, practice, means, methods, operations or processes shall also apply to other similar work situations for which no specific rule has been established.

1012.02: Abatement of Imminent Danger:

- (1) An imminent danger is a condition or practice that could reasonably be expected to cause death or serious physical harm before abatement under the enforcement procedures can be accomplished.
- (2) When an enforcement officer finds that an imminent danger exists in a workplace, he shall inform the affected employer and workers of the danger and shall recommend to the Regional Director the issuance of an Order for stoppage of operation or other appropriate action for the abatement of the danger. Pending the issuance of the Order the employer shall take appropriate measures to protect the workers.
- (3) Upon receipt of such recommendation, the Regional Director shall immediately determine whether the danger exists and is of such a nature as to warrant the issuance of a Stoppage Order or other appropriate action to minimize the danger.
- (4) The Order shall require specific measures that are necessary to avoid, correct or remove such imminent danger and to prohibit the presence of any worker in such location where such danger exists, except those whose presence are necessary to avoid, correct or remove such danger or to maintain a continuous process or operation. Where stoppage of operation is ordered, the Order shall allow such correction, removal or avoidance of danger only where the same can be accomplished in a safe and orderly manner.

- (5) Immediately after the issuance of a Stoppage Order, the Regional Director shall furnish the Secretary, through the Director, within forty-eight (48) hours a copy of the Order and all pertinent papers relating thereto, together with a detailed description of the work conditions sought to be corrected, the safety and health rule violated by the employer, and the corrective measures imposed. The Secretary shall review the Order issued by the Regional Director and within a period of not more than five (5) working days, issue a final Order either lifting or sustaining the Order of the Regional Director.
- (6) The Order shall remain in effect until danger is removed or corrected.

1012.03 : Suspension of Rules:

- (1) The Secretary may issue to an employer-applicant a temporary order suspending the effectivity date of a Rule or any part of this Standards for the following reasons:
 - a. the unavailability of professional or technical personnel or of materials and equipment needed to comply with the rule;
 - b. necessary construction or alteration of the prescribed facilities cannot be completed on the effectivity date of the rule;
 - c. the employer is participating in experiments or studies approved or conducted by the Bureau designed to demonstrate new techniques to safeguard the safety and health of workers.
- (2) In such a case, the employer-applicant shall establish:
 - a. the reason why he is applying for a suspension order, specifying the rule or portion he seeks suspension of;
 - b. that he is taking all available and necessary steps to safeguard his workers against the hazards covered by the rule, and that he is prescribing necessary measures, methods, operations and practices which he must adopt and use while the suspension is in effect;
 - c. that he has an effective program for coming into compliance with the rule as quickly as possible, specifying a given date for compliance;
 - d. that he has informed his workers of the application and a copy of the application and reasons thereof have been given to the workers or their duly authorized representative.
- (3) The application shall be submitted to the Regional Director or duly authorized representative, as the case may be, who after hearing the workers or their duly authorized representative shall evaluate and recommend action to the Secretary, through the Director. He may issue an interim order to be effective until the suspension order is issued by the Secretary.
- (4) The suspension order, including the interim order, shall prescribe the practices, means, methods, operations, or processes which the employer must use and adopt while the order is in effect and while the program for coming into compliance with the rule is being implemented.
- (5) The suspension order shall not be in effect longer than the period needed by the employer to come into compliance with the rule, or one year, whichever is shorter, renewable for another year, subject to revocation or shortening of the period by the Secretary, if such is warranted.

1012.04 : Variation Order:

- (1) If there shall be practical difficulty or unnecessary hardship in complying with the requirements of any rule or provision of this Standards, the Secretary, upon the recommendation of the Director, may issue an order allowing a variation in complying with such requirements, provided that the purpose of such rule or provision is substantially served and the safety and health of the workers remain ensured. The employer affected by such rule or provision may request in writing the Secretary, thru the Regional Labor Office, to authorize such a variation stating the grounds for the request and the measures to be taken or already being taken.
- (2) An application for a variation shall contain:
 - a. a specification of the rule or provision or portion thereof from which the employer is seeking a variation.
 - b. an attestation from technically qualified person that the employer is unable to comply with the rule and detailed reasons thereof;
 - c. a detailed statement of the measure he will take or is already taking to protect the workers against the hazards covered by the rule or provision; and
 - d. a certification that the workers have been informed and a copy of the application has been furnished the workers or their duly authorized representative.
- (3) A variation order shall stipulate the conditions under which the variation is permitted and shall be applicable and effective only to the particular employer and operations covered by the Order. A variation order shall remain in effect until revoked by the Secretary.

1013 : Hazardous Workplaces:

For purposes of this Standards, the following are considered "hazardous workplaces:"

- a. Where the nature of work exposes the workers to dangerous environmental elements, contaminants or work conditions including ionizing radiation, chemicals, fire, flammable substances, noxious components and the like;
- b. Where the workers are engaged in construction work, logging, fire fighting, mining, quarrying, blasting, stevedoring, dock work, deep-sea fishing and mechanized farming;
- c. Where the workers are engaged in the manufacture or handling of explosives and other pyrotechnic products;
- d. Where the workers use or are exposed to power driven or explosive powder actuated tools;
- e. Where the workers are exposed to biologic agents such as bacteria, fungi, viruses, protozoas, nematodes, and other parasites.

RULE 1020 REGISTRATION

1021 : General Provisions:

Every employer as defined in Rule 1002 (1) shall register his business with the Regional Labor Office or authorized representative having jurisdiction thereof to form part of a databank of all covered establishments.

1022 : Registrable Unit:

The establishment regardless of size of economic activity, whether small, medium or large scale in one single location, shall be one registrable unit.

1023 : Period of Registration:

- (1) Existing establishments shall be registered within sixty (60) days after the effectivity of this Standards.
- (2) New establishments shall register within thirty (30) days before operation.

1024 : Registration:

- (1) Registration shall be made in form DOLE-BWC-IP-3 in three copies and to be submitted to the Regional Labor Office or authorized representatives.
- (2) Registration shall be free of charge and valid for the lifetime of the establishment except when any of the following conditions exists, in which case, re-registration as if it were a new establishment is required:
 - a. change in business name,
 - b. change in location,
 - c. change in ownership, or
 - d. re-opening after previous closing.
- (3) Registration shall include a layout plan of the place of work floor by floor, in a scale of 1:100 meters white or blue print showing all the physical features of the workplace including storage, exits, aisles, machinery, clinic, emergency devices and location.
- (4) The registration form may be reprinted or reproduced and the back page may be used for other information.

RULE 1030
TRAINING OF PERSONNEL IN OCCUPATIONAL SAFETY AND HEALTH

1031 : Training Programs:

- (1) The Bureau, either directly or through accredited organizations, shall conduct continuing programs to increase the supply and competence of personnel qualified to carry out the provisions of this Standards.
- (2) The Bureau shall prescribe the required training programs, which shall, in consultation with the UP Institute of Public Health, World Health Organization and other technical societies, contain provisions requiring the incorporation into the training programs of the latest trends, practices and technology in occupational safety and health.

1032 : Accreditation:

The Secretary may issue accreditation or authority to recognized organizations or groups of persons to conduct occupational safety and health training.

1032.01: Criteria for Training:

- (1) A Bureau-prescribed course of study shall be used or followed by accredited organizations. Any deviation from the prescribed training course must be with the previous approval of the Bureau.
- (2) Provisions for adequate training facilities for the holding of training including laboratory facilities, library, training rooms and equipment.
- (3) Training staff must be composed of persons recognized by the Bureau, duly trained by and certified to as competent by the Bureau or accredited training organizations.

1032.02: Audit Systems:

- (1) A regular audit shall be done by the Bureau to determine compliance with the above criteria, the system and method of training, and the quality and effectiveness of the training staff.
- (2) Upon recommendation of the Director, the Secretary may cancel the accreditation if the provisions of this Rule are not complied with.

1033 : Training and Personnel Complement:

- (1) The training course prescribed by the Bureau under this rule shall be a requisite for the appointment of the safetyman in place of employment.
- (2) At least the following number of supervisors or technical personnel shall take the required training and shall be appointed safety man, full time or part-time depending on the number of workers employed, and the type of workplace whether hazardous or non-hazardous under Rule 1013 of this Standards.

a. Hazardous Workplace:

Number of Workers		No. of Safety Man
200 and below	-	One (1) part-time safety man
over 200 to 1000	-	One (1) full-time safety man
for every 1000 workers	-	One (1) full-time safety man

b. Non-hazardous Workplace:

Number of Workers		No. of Safety Man
less than 1 000	-	One (1) part-time safety man
for every 1 000	-	One (1) full-time safety man

- (3) Duties of the Safety Man: The duties of the safetyman are specified under Rule 1040 of this Standards. A part-time safetyman shall be allotted at least four (4) hours per week to perform the duties as safetyman.
- (4) The employment of a full-time safety man may not be required if the employer enters into a written contract with a qualified consultant or consulting organization whose duties and responsibilities shall include the following, among others:
- a. to assist, advise or guide the employer in complying with the provisions of this Standards, including the development of health and safety programs;
 - b. to make at least a quarterly appraisal of programs and safety performance of the establishment, including the activities of the safety committee;
 - c. to be present during scheduled safety inspection by authorized government agents, and during regular safety committee meetings; and
 - d. in the performance of these activities, to be in the establishment at least six (6) hours a week. The employment of a consultant, however, will not excuse the employer from the required training of his supervisors or technical personnel.

1034.01 : Qualifications of a Safety Consultant:

- (1) A qualified safety consultant shall mean one who has been a safety and health practitioner for at least five (5) years and has taken the necessary training prescribed by the Bureau.
- (2) Safety practitioners with at least ten (10) years of experience in all fields of occupational safety and health may not be required to undergo the required training provided they secure from the Bureau a certification attesting to their competence to qualify as consultants.
- (3) All safety consultants or consulting organizations, shall be accredited by the Bureau, and registered with the Regional Office concerned.

1034.02 : Prohibition in the Practice of Occupational Safety and Health:

No person or organization may be allowed hired or otherwise employed in the practice of occupational safety and health unless the requirements of this Rule are complied with.

RULE 1040 HEALTH AND SAFETY COMMITTEE

1041 : General Requirements:

In every place of employment, a health and safety committee shall be organized within sixty (60) days after this Standards takes effect and for new establishments within one (1) month from the date the business starts operating. In both cases the Committee shall reorganize every January of the following year.

1042 : Types and Composition of Health and Safety Committee:

1042.01 : Type A:

In every workplace having a total of over four hundred (400) workers the following shall compose the Health and Safety Committee:

- Chairman - The manager or his authorized representative who must be a top operating official.
- Members - Two department heads
 - Four workers (must be union members, if organized)
 - The company physician
- Secretary - The safety man

1042.02 : Type B:

In every workplace having a total of over two hundred (200) to four hundred (400) workers, the following shall compose the Health and Safety Committee:

- Chairman - The manager or his authorized representative who must be a top operating official.
- Members - One supervisor, Three workers (must be union members, if organized)
 - The company physician or the company nurse
- Secretary - The safetyman

1042.03 : Type C:

In every workplace with one hundred (100) to two hundred (200) workers, the following shall compose the Health and Safety Committee:

- Chairman - Manager or his authorized representative
- Members - One foreman
 - Three workers (must be union members, if organized)
 - The nurse
- Secretary - The part-time safetyman

1042.04 : Type D:

In every workplace with less than one hundred (100) workers, the following shall compose the Health and Safety Committee:

Chairman - Manager

Members - One foreman
- Three workers (must be union members, if organized)
- The nurse/first-aider

Secretary - The part-time safety man

In this workplace, the line type as defined in 1048.02 may be organized.

1042.05 : Type E: Joint Committee

When two or more establishments are housed under one building, the health and safety committee organized in each workplace shall form themselves into a Joint Coordinating Committee to plan and implement programs and activities concerning all the establishments.

The Joint Coordinating Committee shall be composed of the following:

Chairman - The chairman of the establishment committee

Members - Two supervisors from two different establishments
- Two workers from two different establishments (union members, if organized)

Secretary - Appointed by the Chairman (in high rise, the Secretary shall be the building administrator)

1042.06 : Membership of Committee:

The membership as provided is the minimum requirement and nothing shall prohibit increases in the number of members as may be found necessary.

Where the workers are not organized, they shall be selected by a simple majority of votes of the workers.

1043 : Duties of the Health and Safety Committee:

1043.01 : Health and Safety Committee:

The Health and Safety Committee is the planning and policymaking group in all matters pertaining to safety and health. The principal duties of the Health and Safety Committee are:

- (1) Plans and develops accident prevention programs for the establishment.
- (2) Directs the accident prevention efforts of the establishment in accordance with the safety programs safety performance and government regulations in order to prevent accidents from occurring in the workplace.
- (3) Conducts safety meetings at least once a month.
- (4) Reviews reports of inspection, accident investigations and implementation of program.
- (5) Submits reports to the manager on its meetings and activities.
- (6) Provides necessary assistance to government inspecting authorities in the proper conduct of their activities such as the enforcement of the provisions of this Standards.
- (7) Initiates and supervises safety training for employees.

- (8) Develops and maintains a disaster contingency plan and organizes such emergency service units as may be necessary to handle disaster situations pursuant to the emergency preparedness manual for establishments of the Office of Civil Defense.

1044 : Term of Office of Members:

1044.01 : Health and Safety Committee:

In order to provide an opportunity for other workers to become member and participate in safety program planning, a periodic change in membership is encouraged. For this purpose, the term of office of the department head in the committee may be one (1) year. The term of office of the worker members in Type A and Type B may be for two (2) years each; in Type C, D and E Committees, may all be one (1) year. The chairman, physician or nurse and the safety man shall be permanent members of the committee.

1044.02 : Joint Committee:

The term of Office of the Chairman and the Members shall be one (1) year. Membership in the Joint Committee shall be rotated among members of the health and safety committees in other establishments.

1045 : Duties of the Employers:

Health and Safety committees play very important roles in eliminating work hazards. Developing workers' interest and participation in the planning and development of safety program is the responsibility of the employer. The employer must exercise the necessary leadership and provide support to make the program work. The principal duties of the employer are:

- (1) Establishes and adopts in writing administrative policies on safety in conformity with the provisions of this Standards outlining therein his responsibility and authority delegated.
- (2) Reports to the enforcing authority in two (2) copies of the policies adopted and the health and safety organization established to carry out the program on safety and health within one month after the organization or reorganization of the health and safety committee.
- (3) Reports to the enforcing authority having jurisdiction at least once in every three (3) months, counting from January, the health and safety program of the organization outlining the activities undertaken including its safety performance, health and safety committee meetings and its recommendations and measures taken to implement such recommendations.
- (4) Acts on recommended measures by the health and safety committee by adopting the elements of the health and safety program in the production process or workplace and in case of non-adoption of the Health and Safety Committee's recommendation, to inform the committee of his reasons.

1046 : Duties of the Workers:

- (1) Works in accordance with accepted safety practices and standards established by the employer in compliance with the provisions of this Standards.
- (2) Reports unsafe conditions and practices to the supervisor by making suggestions for correction or removal of accident hazards.
- (3) Serves as members of the Health and Safety Committee.
- (4) Cooperates actively with the Health and Safety Committee.
- (5) Assists government agencies in the conduct of health and safety inspection or other programs.

1047 : Duties of the Safety Man:

The principal function of the Safety Man is to act as the employers' principal assistant and consultant in the application of programs to remove the hazards from the workplace and to correct unsafe work practices. For this purpose, the Safety Man has the following duties:

- (1) Serves as Secretary to the Health and Safety Committee. As such, he shall:
 - a. prepare minutes of meetings;
 - b. report status of recommendations made;
 - c. notify members of the meetings; and
 - d. submit to the employer a report of the activities of the committee, including recommendations made.
- (2) Acts in an advisory capacity on all matters pertaining to health and safety for the guidance of the employer and the workers.
- (3) Conducts investigation of accidents as member of the Health and Safety Committee and submits his separate report and analysis of accidents to the employer.
- (4) Coordinates all health and safety training programs for the employees and employer.
- (5) Conducts health and safety inspection as member of the committee.
- (6) Maintains or helps in the maintenance of an efficient accident record system and coordinates actions taken by supervisors to eliminate accident causes.
- (7) Provides assistance to government agencies in the conduct of safety and health inspection, accident investigation or any other related programs.
- (8) For purposes of effectiveness in a workplace where full-time safety man is required, he shall report directly to the employer.

1048 : Other Types of Health and Safety Organizations:

Subject to the approval of the Secretary or his duly authorized representative, the employer may establish in his place of employment the line or staff type of organization.

1048.01: Line Type:

A form of organization where the general manager or head of the establishment directs the health and safety programs and assumes overall responsibility for the safety in the establishment. He in turn delegates the application of health and safety programs to plant personnel occupying line positions.

1048.02: Staff Type:

Staff safety organization or safety engineer type consists of a line organization with specialized personnel employed to advise and assist management in all matters of safety. Said personnel are responsible to the top executive exercising staff functions, serve all departments in an advisory capacity and supervise the application of the health and safety program in the workplace.

**RULE 1050
NOTIFICATION AND KEEPING OF RECORDS OF
ACCIDENTS AND/OR OCCUPATIONAL ILLNESSES**

1051 : Definitions

For the purpose of this Rule, the following terms are hereby defined:

- (1) *"Medical Treatment Injury"* shall mean an injury which does not result in a disabling injury but which requires first aid and medical treatment of any kind.
- (2) *"Disabling Injury"* shall mean a work injury which results in death, permanent total disability, permanent partial disability or temporary total disability.
- (3) *"Death"* shall mean any fatality resulting from a work injury regardless of the time intervening between injury and death.
- (4) *"Permanent Total Disability"* shall mean any injury or sickness other than death which permanently and totally incapacitates an employee from engaging in any gainful occupation or which results in the loss or the complete loss of use of any of the following in one accident:
 - a. both eyes;
 - b. one eye and one hand, or arm, or leg or foot;
 - c. any two of the following not in the same limb, hand, arm, foot, leg;
 - d. permanent complete paralysis of two limbs;
 - e. brain injury resulting in incurable imbecility or insanity.
- (5) *"Permanent Partial Disability"* shall mean any injury other than death or permanent total disability, which results in the loss or loss of use of any member or part of a member of the body regardless of any pre-existing disability of the injured member or impaired body function.
- (6) *"Temporary Total Disability"* shall mean any injury or illness which does not result in death or permanent total or permanent partial disability but which results in disability from work for a day or more.
- (7) *"Regularly Established Job"* shall mean the occupation or job description of the activities performed by an employee at the time of the accident and shall not mean one which has been established especially to accommodate an injured employee, either for therapeutic reason or to avoid counting the case as disability.
- (8) *"Day of Disability"* shall mean any day in which an employee is unable, because of injury or illness, to perform effectively throughout a full shift the essential functions of a regularly established job which is open and available to him.
- (9) *"Total Days Lost"* shall mean the combined total, for all injuries or illnesses of:
 - a. all days of disability resulting from temporary total injuries or illnesses; and/or
 - b. all scheduled charges assigned to fatal, permanent total and permanent partial injuries or illnesses.
- (10) *"Scheduled Charges"* shall mean the specific charge (in full days) assigned to a permanent partial, permanent total, or fatal injury or illness (See Table 6, Time Charges).

- (11) *Employee* for the purpose of counting injuries or illnesses or calculating exposures shall be as defined in Rule 1002 (2) and shall include working owners and officers.
- (12) *Exposure* shall mean the total number of employee-hours worked by all employees of the reporting establishment or unit.
- (13) *Disabling Injury Frequency Rate* is the number of disabling injuries per 1,000,000 employee-hours of exposure rounded to the nearest two (2) decimal places.
- (14) *Disabling Injury Severity Rate* is the number of days lost per 1,000,000 employees-hours of exposure rounded to the nearest whole number.

1052 : Special Provision:

1052.01 :

Reports made by the employer shall be exclusively for the information of the Regional Labor Office or duly authorized representative in securing data to be used in connection with the performance of its accident and illness prevention duties and activities and is a requirement distinct from that of the Employee's Compensation Commission or any other law. These reports shall not be admissible as evidence in any action or judicial proceedings in respect to such injury, fitness or death on account of which report is made and shall not be made public or subject to public inspection except for prosecution for violations under this Rule.

1052.02 :

The definitions and standard used here are independent of those established by the Employee's Compensation Commission.

1053 : Report Requirements:

1053.01 :

- (1) All work accidents or occupational illnesses in places of employment, resulting in disabling condition or dangerous occurrence as defined in 1053.2 shall be reported by the employer to the Regional Labor Office or duly authorized representative in duplicate and a copy furnished the employee or his duly authorized representative using form DOLE/BWC/HSD-IP-6. The formal report shall be submitted by the employer on or before the 20th day of the month following the date of occurrence of the accident or when the illness, is established and an investigation report in the prescribed form shall be submitted by the Regional Office or duly authorized representative on or before the 30th day of the same month. In case of temporary total disability where the injured or ill employee has not reported back to duty on the closing date of reporting, an estimate of the probable days of disability shall be made and entered in the report and corrected after the return of the injured. In all computations, this estimate shall be used. After the return of the injured, the corrected days of absence shall be used.
- (2) Where the accident or fitness results in death or permanent total disability, the employer, in addition to the written report required under sub-paragraph (1) above, shall initially notify the Regional Labor Office or duly authorized representative within twenty four (24) hours after occurrence using the fastest available means of communication.
- (3) All deaths and permanent total disabilities shall be investigated by the Regional Office or duly authorized representative within forty eight (48) hours after receipt of the initial report of the employer, prepared in duplicate using the prescribed form DOLE/ BWC/OHSD-IP-6a.

1053.02:

- (1) Any dangerous occurrence as specified in sub-paragraph (2) hereunder, which may or may not cause serious bodily harm to workers employed or seriously damage the premises of employment shall be investigated and reported by the employer upon occurrence to the Regional Labor Office or duly authorized representative having jurisdiction in duplicate using the prescribed form DOLE/BWC/HSD-IP-6.
- (2) The following are dangerous occurrences, which shall be investigated and reported:
 - a. Explosion of boilers used for heating or power.
 - b. Explosion of a receiver or storage container, with pressure greater than atmospheric, of any gas or gases (including air) or any liquid resulting from the compression of such gases or liquid.
 - c. Bursting of a revolving wheel, grinder stone or grinding wheel operated by mechanical power.
 - d. Collapse of a crane, derrick, winch, hoist or other appliances used in raising or lowering persons or goods or any part thereof, the overturning of a crane, except the breakage of chain or rope sling.
 - e. Explosion or fire causing damage to the structure of any room or place in which persons are employed or to any machine contained therein resulting in the complete suspension of ordinary work in such room or place, or stoppage of machinery or plant for not less than twenty four (24) hours, and
 - f. Electrical short circuit or failure of electrical machinery, plant or apparatus, attended by explosion or fire causing structural damage thereto and involving its stoppage and misuse for not less than 24 hours.

1054 : Keeping of Records:

- (1) The employer shall maintain and keep an accident or illness record which shall be open at all times for inspection to authorized personnel containing the following minimum data:
 - a. Date of accident or illness;
 - b. Name of injured or ill employee, sex and age;
 - c. Occupation of injured or ill employee at the time of accident or illness;
 - d. Assigned causes of accident or illness;
 - e. Extent and nature of disability;
 - f. Period of disability (actual and/or charged);
 - g. Whether accident involved damaged to materials, equipment or machinery, kind and extent of damage, including estimated or actual cost; and
 - h. Record of initial notice and/or report to the Regional Labor Office or authorized representative.
- (2) The employer shall accomplish an Annual Work Accident/Illness Exposure Data Report in duplicate using the prescribed form DOLE/BWC/HSD-IP-6b, which shall be submitted to the Bureau copy furnished the Regional Labor Office or duly authorized representative having jurisdiction on or before the 30th day of the month following the end of each calendar year.

1055 : Evaluation of Disability:

1055.01: Charges:

- (1) Death resulting from accident shall be assigned at time charge of 6,000 days.

NOTIFICATION AND KEEPING OF RECORDS

- (2) Permanent total disability resulting from work accident shall be assigned a time charge of 6,000 days.
- (3) Permanent Partial disability either traumatic or surgical, resulting from work accident shall be assigned the time charge as provided in Table 6 on Time Charges. These charges shall be used whether the actual number of days lost is greater or less than the scheduled charges or even if no actual days are lost at all.
- (4) For each finger or toe, use only one charge for the highest valued bone involved. For computations of more than one finger or toe, total the separate charges for each finger or toe.
- (5) Charges due to permanent impairment of functions shall be a percentage of the scheduled charges corresponding to the percentage of permanent reduction of functions of the member or part involved as determined by the physician authorized by the employer to treat the injury or illness.
- (6) Loss of hearing is considered a permanent partial disability only in the event of industrial impairment of hearing from traumatic injury, industrial noise exposure or occupational illness.
- (7) The charge due to permanent impairment of vision shall be a percentage of the scheduled charge corresponding to the percentage of permanent impairment of vision as determined by the physician authorized by the employer to treat the injury or illness.
- (8) For permanent impairment affecting more than one part of the body, the total charge shall be the sum of the scheduled charges for the individual body parts. If the total exceeds 6,000 days, the charge shall be 6,000 days.
- (9) Where an employee suffers from both permanent partial disability and a temporary total disability in one accident, the greater days lost shall be used and shall determine the injury classification.
- (10) The charge for any permanent partial disability other than those identified in the schedule of time charges shall be a percentage of 6,000 days as determined by the physician authorized by the employer to treat the injury or illness.
- (11) The charge for a temporary total disability shall be the total number of calendar days of disability resulting from the injury or fitness as defined in Rule (8), provided that:
 - a. The day of injury or illness and the day on which the employee was able to return to full-time employment shall not be counted as days of disability but all intervening period or calendar days subsequent to the day of injury or illness shall be counted as days of disability;
 - b. Time lost on a work day or on a non-workday subsequent to the day of injury or illness ascribed solely to the unavailability of medical attention or necessary diagnostic aids shall be considered disability time, unless in the opinion of the physician authorized to treat the injured or ill employee, the person will be able to work on all those days subsequent to the day of the injury;
 - c. If the physician, authorized by the employer to treat the injured or ill employee, is of the opinion that the employee is actually capable of working a full normal shift of a regularly established job but has prescribed certain therapeutic treatments, the employee may be excused from work for such treatments without counting the excused time as disability time.

- d. If the physician, authorized by the employer to treat the injured or ill employee, is of the opinion that the employee was actually capable of working a full normal shift of a regularly established job, but because of transportation problems associated with his injury, the employee arrives late at his place of work or leaves the workplace before the established quitting time, such lost time may be excused and not counted as disability time. However, the excused time shall not materially reduce his working time, and that it is clearly evident that his failure to work the full shift hours was the result of a valid transportation problem and not a deviation from the "regularly established job".
- e. If the injured or ill employee receives medical treatment for his injury, the determination of the nature of his injury and his ability to work shall rest with the physician authorized by the employer to treat the injured or ill employee. If the employee rejects medical attention offered by the employer, the determination may be made by the employer based upon the best information available to him if the employer fails to provide medical attention, the employee's determination shall be controlling.

1056 : Measurement of Performance:

1056.01: Exposure to Industrial Injuries:

Exposure to work injuries shall be measured by the total number of hours of employment of all employers in each establishment or reporting unit. The exposure of a central administrative office or central sales office of a multi-establishment-concern shall not be included in the experience of any one establishment, nor prorated among the establishments, but shall be included in the over-all experience of the multiestablishment.

1056.02: Determination of Employee-Hours of Exposure:

Employee-hours of exposure for calculating work injury rates are intended to be actual hours worked. When actual hours are not available, estimated hours may be used. Employee-hours shall be calculated as follows:

- (1) *Actual Exposure Hours* - Employee hours of exposure shall be, if possible, taken from the payroll or time clock records and shall include only the actual straight time hours worked and actual overtime hours worked.
- (2) *Estimated Exposure Hours* - When actual employee - hours of exposure are not available estimated hours may be used. Such estimated hours should be obtained by multiplying the total employee days worked for the period by the average number of hours worked per day. If the hours worked per day vary among departments, a separate estimate should be made for each department, and these estimates added to obtain the total hours. Estimates for overtime hours shall be included.

If the employee-hours are estimated, indicate the basis on which estimates are made.

- (3) *Hours not Worked* - Employee - hours paid for but not worked, either actual or estimated, such as time taken for vacation, sickness, barangay duty, court duty, holidays, funerals, etc., shall not be included in the total hours worked. The final figure shall represent as nearly as possible hours actually worked.
- (4) *Employee Living in Company-Property* - In calculating hours of exposure for employees living in company property, only those hours during which employees were actually on duty shall be counted.

- (5) *Employee with Undefined Hours of Work* - Traveling salesmen, executives and others whose working hours are defined, an average eight hours day shall be assumed in computing exposure hours.
- (6) All stand-by hours of employees, including seamen aboard vessels, who are restricted to the confines of the employer's premises, shall be counted as well as all work injuries occurring during such hours.

1056.03 : Measures of Injury/Illnesses Experience:

- (1) *Disabling Injury /Illnesses Frequency Rates* - The disabling injury/illness frequency rate is based upon the total number of deaths, permanent total, permanent partial, and temporary total disabilities which occur during the period covered by the rate. The rate relates those injuries/illnesses to the employeehours worked during the period and expresses the number of such injuries/illnesses in terms of a million man-hour unit by the use of the formula:

$$\text{Disabling Injury/Illness Frequency Rate (FR)} = \frac{\text{Number of Disabling Injury/Illness} \times 1,000,000}{\text{Employees-hours of exposure}}$$

The frequency rate shall be rounded to the nearest two decimal places.

- (2) *Disabling Injury / Illness Severity Rate* - The disabling injury / illness severity rate is based on the total of all scheduled charges for all deaths, permanent total and permanent partial disabilities, plus the total actual days of the disabilities of all temporary total disabilities which occur during the period covered by the rate. The rate relates these days to the total employee-hours worked during the period and expresses the loss in terms of million man-hour unit by the use of the formula.

$$\text{Disabling Injury /Illness Severity Rate (SR)} = \frac{\text{total days lost} \times 1,000,000}{\text{employee-hours of exposure}}$$

The severity rate shall be rounded to the nearest whole number.

- (3) *Average Days Charged per Disabling Injury* - The average days charged per disabling injury/illness expresses the relationship between the total days charged and the number of disabling injuries/Illness. The average may be calculated by the use of the formula:

$$\text{Average days charged per Disabling injury/illness} = \frac{\text{Total Days Lost}}{\text{total number of disabling injuries/illnesses}}$$

or

$$\text{Average days charge per Disabling injury/illness} = \frac{\text{injury severity rate}}{\text{injury/illness frequency rate}}$$

RULE 1060 PREMISES OF ESTABLISHMENTS

1060.01 : General Provisions:

- (1) Building premises shall have adequate fire, emergency or danger sign and safety instructions of standard colors and sizes visible at all times, in accordance with table II, "Standard colors of signs for safety instruction and warnings in building premises". (Appendix)
- (2) Other visible signs that may be needed to direct the driver of motorized vehicle such as STOP, YIELD, and DO NOT ENTER, properly positioned within the compound of the establishment shall be used to increase safety especially during the night.
- (3) Handicapped employees should be restricted only to designated workplaces. As far as practicable and feasible they should be provided with facilities for safe and convenient movement with the establishment.
- (4) Good housekeeping shall be maintained at all times through cleanliness of building, yards, machines, equipment, regular waste disposal, and orderly arrangement of processes, operations, storage and filing of materials.
- (5) Personal Facilities : Adequate comfort rooms and lavatories separate for male and female workers; Adequate dressing rooms for female workers and locker rooms for male workers shall be provided, in accordance with article 132, Chapter 1, Title 111 Book 111 of the Labor Code of the Philippines. The number of comfort facilities for a given number of workers shall conform with the requirement of the Department of Health.

1061 : Construction and Maintenance:

- (1) All buildings, permanent or temporary shall be structurally safe and sound to prevent their collapse.
- (2) Roof shall be of sufficient strength to withstand normal load, typhoons and strong winds in addition to normal weather conditions and where required to carry suspended loads.
- (3) Foundations and floors shall be of sufficient strength to sustain safely the loads for which they are designed and under no condition shall they be overloaded.
- (4) Plans for proposed new construction and alterations or substantial repairs of buildings shall be submitted to the Building Official for examination and approval.

1062 : Space Requirement:

- (1) Workrooms shall be at least 2.7 meters (8 ft. 10 in.) in height from the floor to the ceiling. Where the rooms are air-conditioned and the process allows free movement; existing heights of not less than 2.4 meters (7 ft. 10 in.) may be allowed.
- (2) The maximum number of persons employed in a workroom area shall not exceed one person per 11.5 cubic meters (400 cu. ft.). In calculating the area, no deductions shall be made for benches or other furniture, machinery, or materials but heights exceeding 3 meters (9 ft.-10 in.) shall not be included.
- (3) Adequate spaces shall be provided between machinery or equipment to allow normal operation, maintenance or repair and free flow of materials under process or in finished form. Passageways between machinery or equipment shall not be less than 60 cm. (24 in.)

1063 : Walkway Surface:

1063.01 : Stumbling Hazards:

- (1) The parts of floors over which any person is liable to walk shall be sufficiently even to afford safe walking and safe trucking of materials.
- (2) Such parts of floors shall be free from holes and splinters, improperly fitted gutters or conduits, protruding nails and bolts, projecting valves or pipes, or other projections or obstructions which create stumbling hazards.

1063.02 : Slipping Hazards:

- (1) Floors, stair-treads and landings shall not be slippery under any condition, or made of any material which will become slippery through wear.
- (2) Stairways, ramps, elevator platforms and similar places where slipping may be especially hazardous shall be provided with non-slip walkway surface.

1064 : Floor and Wall Opening:

1064.01 : Ladderway Opening:

Ladderway floor openings shall be guarded on all exposed sides, except at the entrance to the opening, by permanent railings and toeboards. The passage through the railings shall be provided with a barrier or gate so arranged that a person cannot walk directly through the opening.

1064.02 : Stairway Openings:

- (1) Stairway floor opening shall be guarded on all exposed sides by permanent railings and toeboards, except the entrance to the stairway.
- (2) For infrequently used stairways where traffic across the openings prevents the use of permanent railings, the guards shall consist of flush-hinged covers of adequate strength equipped with railings attached thereto so as to leave only one side exposed when the covers are open. When the openings are not in use, the covers shall be closed or the exposed sides guarded.
- (3) Hatchway, chute, pit and trap door openings shall be guarded by:
 - a. Removable railings with toeboards on not more than two sides and permanent railings with toeboards on all other exposed sides, or
 - b. Flush-hinged covers as prescribed for stairway floor openings.

1064.03 : Manholes and Other Openings:

- (1) Manhole floor openings shall be guarded by manhole covers of adequate strength, which need not be hinged.
- (2) Other floor openings into which persons can accidentally walk shall be guarded either by permanent railings and toeboards on all exposed sides or by hinged-floor opening covers of adequate strength.
- (3) When covers for type (1) or (2) above are not in place, the opening shall be constantly attended to by someone or protected by portable enclosing railings.
- (4) Floor openings into which persons cannot accidentally walk on account of fixed machinery, equipment or wall, shall be guarded by covers having no openings more than 2.5 cm. (1in.) in width securely held in place.

- (5) All wall openings less than 1 meter (3.3 ft.) from the floor, having a height of at least 75-cm (30 in.) and a width of at least, 45 cm. (18 in.) from which there is a drop of more than two (2) meters (6.6 ft.) shall be solidly enclosed or guarded by barriers capable of withstanding a load of at least 100 kgs. (220 lbs.) applied in any direction at any point of the top rail or corresponding members except vertically upward.
- (6) All other wall openings, irrespective of their width shall, if their lower edge is either 8 cm. (3.2 in.) or less above floor level on the rear side and 2 meters (6.6 ft.) or more above ground or floor level on the far side, be guarded by:
 - a. A toeboard across the bottom of the opening, or
 - b. An enclosing screen either solid or of grills or slat work with openings not more than 2.5 cm. (1 in.) in width capable of withstanding a load of at least 50 kgs. (100 lbs.) applied horizontally at any point.

1064.04: Construction of Railings:

- (1) All railings shall be permanently constructed of wood, pipe, structural metal or other material of sufficient strength.
- (2) Standard railings shall be at least 1 meter (3.3 ft.) from the floor level to the upper surface of the top rail.
- (3) Standard railings shall have posts not more than 2 meters (6.6 ft.) apart and an intermediate rail halfway between the top rail and the floor.
- (4) The dimensions of railings and posts anchorage and framing of members shall be such that the completed structure shall be capable of withstanding a load of at least 100 kgs. (220 lbs.) applied from any direction to any point of the top rail.
- (5) Railings of the following types of construction shall be deemed to satisfy tests requirements.
 - a. for wood railings - top rails and posts of at least 5 cm. x 10 cm. (2 in. x 4 in.) stock and intermediate rails of at least 5 cm. x 5 cm. (2 in. x 2 in.) or by 2 cm. x 10 cm. (1 in. x 4 in.) stock, all such railings shall be smooth and free from large or loose knots, protruding nails or bolts, splinters, fins, slivers, or cracks.
 - b. for pipe railings - top rails and posts of metal pipes of at least 30 mm. (1 in.) diameter.
 - c. for structural metal railings - top rails and posts of angle iron of at least 38 mm. x 38 mm. x 5 mm. (1.5 in. x 1.5 in. x 0.2 in.) and intermediate rails of angle iron of at least 32 mm. x 32 mm. x 3 mm. (13 in. x 1.3 in. x 0.1 2 in.).
- (6) Railings shall be of sound materials free from defects and all sharp corners rounded and smoothed.

1064.05: Construction of Toeboards:

- (1) Toeboards shall be at least 15 cm. (6 in.) in height
- (2) Toeboards may be made of wood, iron, steel or other equivalent material.
- (3) Toeboards shall be securely fastened in place, with not more than 6 mm. (0.3 in.) clearance above the floor level.

1065 : Stairs:

1065 : Stairs:

1065.01 : Strength:

All stairs, platform, and landings shall be of sufficient strength to sustain safely a liveload of not less than 490 kg/m² (100 lbs/ft²) with a factor of safety of four (4).

1065.02 : Width:

Stairs, except service stairs, i.e., stairs giving access to oiling platforms, shall not be less than 1.10 meters (3 ft. 7 in.) in width, clear of all obstructions, except handrails, and shall in no case be less than 90 cm. (35 in.) without the handrails.

1065.03 : Pitch:

- (1) Except for service stairs, the pitch of stairways be between 300 to 380 from the horizontal but shall not be less than 200 or more than 450.
- (2) Where the pitch is less than 200, a ramp shall be installed, and where it is more than 450, fixed ladder shall be provided.

1065.04 : Height:

No stairway shall have a height of more than 3.6 meters (12 ft) between landings.

1065.05 : Headroom:

Headroom shall be provided at all points in the stair well. The vertical clearance shall not be less than 2.0 meters (6 ft. 7 in.) from the top of the tread in line with the face of the riser.

1065.06 : Treads and Risers:

- (1) Except for the service stairs, treads shall not be less than 25cm. (9in.) in width exclusive of nosing and projections, and the riser shall not be more than 20 cm. (8 in.) and not less than that provided in 1065.03 (1)
- (2) There shall be no variation in the width of the treads and the height of the risers in any flight. The top and bottom of any flight of stairs shall be clearly distinguished.

1065.07 : Railings:

- (1) All stairs having four or more risers shall be equipped with stair railings on any open side.
- (2) Enclosed stairways less than 1.1 2 meters (3 ft. - 8 in.) width shall be equipped with at least one handrail preferably on the right side descending.
- (3) Stairways 1.12 meters (3 ft. - 8 in.) more in width shall be equipped with one stair railing on each open side and one handrail on each enclosed side.
- (4) Stairs railings shall be constructed in a permanent and sufficient manner of wood, pipe, structural metal or other materials of adequate strength.
- (5) The height of the stair railings from the upper surface of the top rail to the surface of the tread in line with the face of the riser at the forward edge of the tread shall not be more than 90 cm. (35 in.) or less than 80 cm (31 in.).

- (6) Handrails shall be continuous throughout a flight of stairs and at landings without obstruction other than those intended to prevent persons from sliding.
- (7) If made of wood, handrails shall be at least 5 cm. x 5 cm. (2 in. x 2 in.) in cross section, and if of metal pipe, at least 2.54 cm. (1 in.) and not more than 6.75 cm. (2 1/2 in.) in diameter.
- (8) Handrails is mounted directly on walls or partitions shall be fixed by means of brackets attached to the lower side of the rail so as not to interfere with the smoothness of the top and side surface of the rails.
- (9) Brackets shall be spaced not more than 2 meters (6 ft. - 6 in.) apart and shall be of sufficient length to provide a clearance of at least 4 cm. (1.5 in.) between the rails and the wall or any obstruction on the wall.
- (10) The completed structure shall be capable of withstanding a load of at least 100 kgs. (220 lbs.) applied in any direction at any point of the rail.
- (11) The clear width of service stairs, such as stairs in engine and boiler rooms or of stairs leading to service platforms around machinery, shall be at least 56 cm. (22 in.).
- (12) The pitch of service stairs shall not be more than 600 and the width of the treads shall not be less than 15 cm. (6 in.).
- (13) Ramps used by persons for ascent or descent from one level to another shall be limited to a rise of not more than 1 in 10 and shall conform to all construction requirements applying to stairways.
- (14) Ramps subjected to heavy stresses from trucking or handling materials shall be provided with additional strength by the use of heavier stock, closer spacing of posts bracing or otherwise designed with a factor of safety of four (4).

1066 : Window Openings:

Window openings at stair landings, where the opening is more than 30 cm. (1 2 in.) in width and the sill is less than 1 m. 90 cm. (6 ft.) above the landing, shall be guarded securely by bars, slats, or grills to prevent persons from falling through.

1067 : Fixed Ladders:

- (1) All metal parts of fittings of ladders shall be made of steel, wrought iron, malleable cast iron or other materials of equivalent strength.
- (2) Fixed ladders shall be installed in the following manner.
 - a. the perpendicular distance from the center line of the rungs to the nearest fixed object on the climbing side of the ladder is at least 90 cm. (35 in.) for a pitch of 750 and 75 cm. (30 in.) for a pitch of 900.
 - b. The distance from the back of the rungs to the nearest fixed object is at least 15 cm. (6 in.)
 - c. Except in the case of ladders equipped with cages, baskets, or equivalent guards, a clearance of 20 cm. (8 in.) from either side of the ladder to a fixed object shall be provided.
 - d. No fixed ladders be installed with a pitch over 900.

- (3) Fixed ladders used to ascend heights exceeding 9 meters (30 ft.).
 - a. Shall be provided with landing platform for each 6 meters (20 ft.) or fraction thereof;
 - b. The sections of the ladder shall be staggered; and
 - c. If (a) or (b) is not practical, ladders equipped with cages, baskets, or equivalent guards shall be provided.

1068 : Overhead Walks, Runways and Platforms:

- (1) Walks, runways, working platforms or open sided floors 2 m. (6.6 ft.) or more above the floor or ground level, except platforms used for motor or similar equipment, which do not afford standing space for persons, shall be guarded on all open sides by standard railings and toeboards.
- (2) Runways used for filling tank cars or for oiling purposes may have the railing on one side omitted if necessary but the hazards of falling shall be reduced by the use of runways not less than 56 cm. (22 in.) in width.
- (3) All runways of platforms constructed over conveyors or machinery shall be guarded on all open sides by standards railings and toeboards.

1069 : Yards:

1069.01 : Surface:

- (1) Plant yards shall be properly drained and graded to facilitate safe access to buildings and safe handling of materials and equipment.
- (2) Properly covered or enclosed drain pools and catch basins shall be provided where necessary.
- (3) Ditches, pits, and other hazardous openings shall be provided with adequate covers, enclosed or surrounded by sufficient guards,
- (4) Walkways, roadways, and railroad tracks shall be carefully laid out in a manner to avoid dangerous grade crossings.

1069.02 : Walkways:

- (1) Safe walkways shall be constructed along the shortest line between important points.
- (2) Walkways shall not be located under the eaves of buildings where they may become slippery.
- (3) Where it is necessary for pedestrians to cross railroad tracks or vehicular roadways, bridges or underpasses shall be provided, and the track or roadway should be fenced to prevent direct crossing at such points.
- (4) Walking along railroad tracks by unauthorized persons shall not be allowed.
- (5) Railings shall be installed along walkways, on bridges on steep slopes, at slippery places and at places where pedestrians are liable to injury by passing vehicles.

1069.03 : Roadways:

- (1) Roadways for automobiles, tractors, or other vehicles shall be soundly constructed with good wearing surfaces.
- (2) Roadways shall be of adequate width, and where used by, two-way traffic shall be at least twice the width of the widest vehicle normally used plus 1.25 m. (4 ft.). Sufficient clearance from overhead structures shall be provided.
- (3) Where the installations of grade or level crossing cannot be avoided such crossing shall be protected.
- (4) Adequate railings or walls shall be provided along bridges, slopes and sharp curves.

1069.04 : Gates:

- (1) Where the premises are surrounded by fencing, separate entrance and exit gates shall be provided for pedestrian, vehicular and railroad traffic.
- (2) Gates for pedestrian traffic shall be located at a safe distance from those for vehicular and railroad traffic, shall be of sufficient width to permit the free passage of employees during rush hours, and, if possible, shall be so located not to cross vehicular or railroad traffic.

1069:05 : Parking of Vehicles:

Regulations covering the use of driveways for entry and exit, speed limits, space allotments and methods of parking shall be provided and strictly enforce where parking space is provided for automobiles of the employee.

RULE 1070 OCCUPATIONAL HEALTH AND ENVIRONMENTAL CONTROL

1071 : General Provisions:

- (1) This rule establishes threshold limit values for toxic and carcinogenic substances and physical agents, which may be present in the atmosphere of the work environment. Threshold Limit Values refer to airborne concentration of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed daily without adverse effect.
- (2) The Regional Office, on the advice of the Director, may issue a special rule establishing threshold limit values for toxic substances not found in the table and such rule shall remain in effect until a permanent standard is issued by the Secretary.
- (3) The Secretary shall periodically review or update the Standards on threshold limit values, permissible noise exposure levels, illumination levels, human carcinogens, temperature and humidity and other technical standards upon recommendation of a technical committee in the Bureau of Working Conditions. The member of the technical committee shall either be a physician, engineer, chemist or nurse who has completed at least an occupational health/occupational safety and health-training course required by this Standards, and who has been an occupational health/occupational safety and health practitioner for not less than three (3) years. Other members of the technical committee shall be drawn from the labor and employers' sectors. The technical committee shall be convened by the Director of the Bureau of Working Conditions as the need for review of the abovementioned technical standards arises. The Standards formulated by the technical committee shall become effective upon announcement by the Secretary of Labor and Employment.

1072 : Threshold Limit Values for Airborne Contaminants:

1072.01:

Threshold limit values refer to time weighted concentrations for an 8-hour workday and a total of fortyeight (48) hours work of exposure per week.

1072.02:

All employees exposure to any material specified in Table 8 and Table 8a of this Rule shall be limited in accordance to the following:

- (1) *Materials with names preceded by "C"*

Ceiling Values:

An employee's exposure to any material in Table 8, the name which is preceded by a "C" (e.g. Boron triflouride), shall at no time exceed the ceiling value given for that material in the Table.

- (2) *Other Materials, 8-hour Time Weighted Average:*

An employee's exposure to any material in Table 8, the name of which is not preceded by a "C" and any material listed in Table 8a in any 8-hour workshift shall not exceed the 8 hour time weighted average limit given for that material in the Table. However, for a short period of time an excursion in the TLV value in the Table may be allowed but should not exceed the following:

- a. from 0 to 1 concentration by 3 times;
- b. from 1 to 10 concentration by 2 times;
- c. from over 10 to 100 concentration by 1 ½ times;
- d. from over 100 to 1000 concentration by 1 ¼ times

(3) *“SKIN” Notation:*

Listed substances followed by the designation “Skin’ (e.g., DDT-Skin) refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or particularly by direct contact with the substance. This attention calling designation is intended to suggest appropriate measures for the prevention of cutaneous absorption so that the threshold limit is not validated.

1072.03:

To achieve compliance with Rule 1072, administrative or engineering controls must first be determined and implemented whenever feasible. When such controls are not feasible to achieve full compliance, protective equipment or other appropriate measures shall be used to keep the exposure of employees to air contaminants within the limit prescribed.

1073 : Threshold Limit Values for Airborne Contaminants: (Tables)

- Table 8 : Threshold limit values for airborne contaminants
- Table 8a: Mineral dust
- Table 8d: Human Carcinogens: Recognized to have carcinogenic potentials

1074 : Physical Agents:

1974.01: Threshold Limit Values for Noise:

The threshold limit values refer to sound pressure that represents conditions under which it is believed that nearly all workers may be repeatedly exposed without adverse effect on their ability to hear and understand normal speech.

- (1) Feasible administrative or engineering controls shall be utilized when workers are exposed to sound levels exceeding those specified in Table 8b hereof when measured on a scale of a standard sound level meter at slow response. If such controls fail to reduce sound within the specified levels, ear protective devices capable of bringing the sound level to permissible noise exposure shall be provided by the employer and used by the worker.

1074.02: Permissible Noise Exposure:

Table 8b

1074.03:

- (1) The values specified in Table 8b apply to total time of exposure per working day regardless of whether this is one continuous exposure or a number of short-term exposures but does not apply to impact or impulsive type of noise.
- (2) If the variation in noise level involves maximum intervals of one (1) second or less, it shall be considered as continuous. If the interval is over one (1) second, it becomes impulse or impact noise.
- (3) When the daily noise exposure is composed of two or more periods noise exposure of different levels, their combined effect should be considered rather than the effect of each.

If the sum of the fraction

$$\frac{C_1}{T_1} + \frac{C_2}{T_2} + \frac{C_3}{T_3}$$

exceeds unity, then the mixed exposure should be considered to exceed the threshold limit value. C indicates the total time exposure at a specified noise level, and T indicates the total time of exposure permitted at the level. However, the permissible levels found in the table shall not be exceeded for the corresponding number of hours per day allowed. Noise exposures of less than 90 dBA do not enter into the above calculations.

- (4) Exposures to impulsive or impact noise shall not exceed 140 decibels peak sound pressures level (ceiling value).

1075 : Illumination:

1075.01 : General Provisions:

All places where persons work or pass or may have to work or pass in emergencies, shall be provided during time of use with adequate natural lighting or artificial lighting or both, suitable for the operation and the special type of work performed.

1975.02: Natural Lighting:

- (1) Skylights and windows should be located and spaced so that daylight conditions are fairly uniform over the working area.
- (2) Where necessary, skylights and windows should be provided with means to avoid glare.
- (3) A regular system of cleaning skylights and windows should be established to ensure that they are kept clean at all times.

**1075.03 : Artificial Lighting:
Quality:**

- (1) Artificial lighting shall be provided when daylight fails or for area where the daylight illumination is insufficient.
- (2) The general lighting should be of uniform level, widely distributed to avoid harsh shadows or strong contrast and free from direct or reflected glare.
- (3) Where intense local lighting is necessary, a combination of general and supplementary lighting at the point of work may be provided.
- (4) Supplementary lighting shall be specially designed for the particular visual task and arranged or provided with shading or diffusing devices to prevent glare.

1075.04: Intensity:

- (1) Artificial lighting shall be adequate at the place of work for the operation or work performed.
- (2) A minimum of 20 lux (2 foot candles) shall be provided for yards, roadways and outside thoroughfares.
- (3) A minimum of 50 lux (5-foot candles) shall be provided:

- a. where discrimination of detail is not essential, such as handling coarse materials, coal or ashes, rough sorting or grinding of clay products;
 - b. for passageways, corridors, stairways, warehouses, storerooms for rough and bulky materials.
- (4) A minimum of 100 lux (10 foot candles) shall be provided:
- a. where slight discrimination of detail is essential such as for the production of semi finished iron and steel products, rough assembling, milling of grains, opening, picking and carding of cotton, or other primary operation in most of the industrial processes; and
 - b. for engine and boiler rooms, passenger and freight elevators, crating and boxing departments, receiving and shipping rooms, storerooms, and stockrooms for medium and fine materials, locker rooms, toilets, and washrooms.
- (5) A minimum of 200 lux (20 foot candles) shall be provided where moderate discrimination of details is essential, such as for medium assembling, rough bench and machine work, rough inspection of testing of products, sewing light-colored textile or leather products, canning and preserving, meat packing, planing of lumber and veneering.
- (6) A minimum of 300 lux (30 foot candles) shall be provided where close discrimination of details is essential such as for medium bench and machine work, medium inspection, fine testing, flour grading, leather finishing and weaving cotton goods or light colored cloth/goods or for office desk work with intermittent reading and writing for filing and mail sorting.
- (7) A minimum of 500 to 1,000 lux (50 to 100 foot candles) shall be provided where discrimination of fine details is involved under conditions of a fair degree of contrasts for long assembling, fine bench and machine work, fine inspection, fine polishing and beveling of glass, fine wood-working and weaving dark colored cloth/goods, or for accounting, bookkeeping, drafting, stenographic work, typing or other prolonged close office desk work.
- (8) A minimum of 1 000 lux (100 foot candles) shall be provided where discrimination of extremely fine detail is involved under conditions of poor contrast for long periods of time, such as for extra fine assembling instrument, jewellery, and watch manufacturing, grading and sorting tobacco products, makeup and proof-reading in printing plants, and inspection of sewing dark-colored cloth products.
- (9) The provisions of paragraphs 2 to 8 apply to lighting equipment under average operating conditions. Where conditions allow, it may be necessary to provide initially an illumination of at least 25% more. In locations where dirt will collect rapidly, the initial level should be at least 50% above the recommended standards.
- (10) Any windowless room shall be provided with general lighting sufficient in intensity for the most exacting operations carried therein.
- (11) Detailed standards of lighting intensity for different operations of work environment shall be as provided in Table 8c.

Note: 1 foot candle = 10.75 lux
 For purpose of computation use 1 foot candle = 10 lux

1075.06 : Table of Illumination Levels:

Table 8c

1075.06 : Emergency Lighting:

- (1) Where large numbers of persons are employed in buildings more than one story in height, emergency lighting system shall be provided in all important stairways, exits, workplaces and passages.
- (2) Emergency systems shall be capable of producing and maintaining for at least one (1) hour, a minimum intensity of 5 lux (0.5 ft. candle) and shall have an energy source independent of the general lighting system installation.
- (3) Provisions shall be made for the automatic lighting of the emergency system immediately upon failure of the general lighting system.

1076 : General Ventilation:

1076.01 : Atmospheric Conditions:

Suitable atmospheric conditions shall be maintained in workrooms by natural or artificial means to avoid insufficient air supply, stagnant or vitiated air, harmful drafts, excessive heat or cold, sudden variations in temperature, and where practicable, excessive humidity or dryness and objectionable odors.

1976.02 : Air Supply:

- (1) Clean fresh air shall be supplied to enclosed workplaces at an average rate of not less than 20 to 40 cubic meters (700 to 1400 cu. ft.) an hour per worker, or at such a rate as to effect a complete change of air a number of times per hour varying from four (4) for sedentary workers to eight (8) for active workers.
- (2) Where an. adequate supply of fresh air cannot be obtained by natural ventilation or where it is difficult to get the desired amount of air at the center of the workrooms without creating uncomfortable drafts near the inlets, mechanical ventilation shall be provided.

1076.03 : Cleanliness:

- (1) Dusts, gases, vapors, or mists generated and released in work processes shall be removed at the points of origin and not permitted to permeate the atmosphere of the workrooms.
- (2) Internal combustion engines fuelled by gasoline, diesel or liquefied petroleum gas (LPG). Installed in workrooms shall be located such that exhaust gases are prevented from permeating the atmosphere of the workrooms.

1076.04 : Air Movement

The air movement in enclosed workplaces shall be arranged such that the workers are not subjected to objectionable drafts. The air velocity shall not exceed 15 meters (50 ft.) per minute during the rainy season and 45 meters (150 ft.) per minute during the summer season.

1076.05 : Temperature and Humidity:

- (1) A temperature suitable for the type of work performed shall be maintained in enclosed workplaces and such temperature shall be increased or decreased and the degree of humidity varied in accordance with the kind of work.

- (2) All employees shall be protected either by insulation of the equipment or by other suitable means against radiation and excessive temperature due to steam and hot water pipes or other heated machinery or equipment.
- (3) In workplaces involving exposure of workers to unduly high or low temperatures, passage rooms shall be provided so that the workers can gradually adjust themselves to the prevailing temperature.

1077 : Working Environment Measurement:

1077.01 : General Provisions:

- (1) The employer shall exert efforts to maintain and control the working environment in comfortable and healthy conditions for the purpose of promoting and maintaining the health of his workers.

1077.02 : Definitions:

Working environment measurement shall mean sampling and analysis carried out in respect of the atmospheric working environment and other fundamental elements of working environment for the purpose of determining actual conditions therein.

1077.03 : Requirements:

- (1) Working environment measurement shall include temperature, humidity, pressure, illumination, ventilation, and concentration of substances and noise.
- (2) The employer shall carry out the working environment measurement in indoor or other workplaces where hazardous work is performed and shall keep a record of such measurement, which shall be made available to the enforcing authority.
- (3) The working environment measurement shall be performed periodically as may be necessary but not longer than annually.
- (4) The working environment measurement shall be performed by the safety and medical personnel who have taken adequate training and experience in working environment measurement.
- (5) In the event of inability to perform the working environment measurement, the employer shall commission the Bureau/Center for Occupational Safety and Health/Regional Labor Office concerned and other institutions accredited or recognized by the Bureau, to perform the measurement.

1077.04 : Effectivity:

This Rule shall be effective upon announcement by the Secretary of Labor and Employment.

RULE 1080
PERSONAL PROTECTIVE EQUIPMENT AND DEVICES

1081 : General Provisions:

1081.01 : Every employer as defined in 1002:

- (1) Shall at his own expense furnish his workers with protective equipment for the eyes, face, hands and feet, protective shields and barriers whenever necessary by reason of the hazardous nature of the process or environment, chemical or radiological or other mechanical irritants or hazards capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.
- (2) Deduction for the loss or damage of personal protective equipment shall be governed by Article 114, Book III, Labor Code of the Philippines, and Section 14, Rule VIII, Book III, Omnibus Rules Implementing the Labor Code.

1081.02 : All personal protective equipment shall be of the approved design and construction appropriate for the exposure and the work to be performed.

1081.03 : The employer shall be responsible for the adequacy and proper maintenance of personal protective equipment used in his workplace.

1081.04 : No person shall be subjected or exposed to a hazardous environmental condition without protection.

1082 : Eye and Face Protection:

1082.01 :

Eyes and face protective equipment shall be required where there is reasonable probability of exposure to such hazards. In such cases, the employer shall furnish a type of protective equipment suitable for the work to be performed and the employees shall use such equipment. Eye protection shall be provided where the processes or operations present hazards of flying objects, liquids, injurious radiation, glare or a combination of these hazards.

1082.02 : Eye and face protective equipment shall conform with the following minimum requirements:

- (1) provide adequate protection against the particular hazard for which they are designed or intended;
- (2) be reasonably comfortable to use;
- (3) fit snugly and shall not unduly interfere with the movements of the user;
- (4) be durable, easily cleaned and capable of being disinfected;
- (5) be kept clean and in good condition, and
- (6) be of the approved type.

1082.03 : Whenever eye protection is needed, persons whose visions require the use of corrective lenses shall wear goggles or spectacles of any of the following types:

- (1) spectacles which provide optical correction;

- (2) goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles; or
- (3) goggles that incorporate corrective lenses mounted behind the protective lenses.

1082.04 : **Limitations and precautions indicated by the manufacturer shall be transmitted to the user and care shall be taken to ensure that such limitations and precautions are strictly followed and observed.**

1082.05 : **For purposes of design, construction, testing, use of eye and face protection, the American National Standards for Occupational Eye and Face Protection Equipment (ANSI z87.1-1968) is adopted.**

1083 : **Respiratory Protection:**

1083.01 :

The primary corrective measure in the control of occupational diseases caused by harmful, dusts, fogs, fumes, mists, gases, smokes, sprays or vapors shall be to prevent atmospheric contamination. This shall be accomplished through the use or application of accepted engineering control measures, like enclosure or confinement of the operation, general and local ventilation and substitution of less toxic materials or a combination of these. When effective engineering control measures are not feasible or while they are in process of being instituted, appropriate respirators shall be used.

1083.02 : **Appropriate respirators shall be furnished by the employer when such equipment are necessary to protect the health of the employees.**

1083.03: **The employee shall use the respiratory protection in accordance with instruments.**

1083.04: **Respiratory Protective Program:**

In order to effectively implement the provisions of Rule 1083, the employer shall institute a respiratory protective program which shall include the following:

- (1) Proper selection of respirators on the basis of the hazards to which the workers exposed;
- (2) Sufficient instruction and training in the proper use and the limitations of respirators;
- (3) When practicable, the assignment of respirators to individual workers for their exclusive use;
- (4) Regular cleaning and disinfecting of the respirators. Respirators issued for the exclusive use of one worker shall be cleaned after each day's use or as often as necessary. Those used by two or more workers shall be thoroughly cleaned and disinfected after each use;
- (5) Appropriate examination and testing of the conditions of the work area in order to assure that the allowable degree of employee exposure is maintained, and to determine the effectiveness of the control measures.

1083.05: Selecting of Respirators:

- (1) For purposes of proper selection, design, construction, testing and use of respirators, the American National Standards Practices for Respiratory Protection (ANSI z88.-21059) is adopted.

1083.06 : Use of Respirators:

- (1) Standard procedures shall be developed for the use of respirators. These should include all information and guidance necessary for their proper selection, use and care. Possible emergency uses of respirators should be anticipated and planned for.
- (2) Written procedures shall be prepared covering safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies. All personnel shall be familiar with these procedures and the available respirators to use.
 - a. Workers in enclosed toxic or oxygen-deficient atmosphere shall be assisted in case of accident by at least one additional worker stationed in an area unaffected by the incident and provided with proper rescue equipment to assist the other(s) in case of emergency. Communication (visual, voice or signal line) shall be maintained among the individuals present;
 - b. When self-contained breathing apparatus or hose masks with blowers are used in atmospheres dangerous to life or health, standby men must be present with suitable rescue equipment;
 - c. Persons using air line respirators in atmospheres hazardous to life or health, shall be equipped with safety harnesses and safety lines for lifting or removing persons from hazardous atmospheres or other equivalent provisions for the rescue of persons. A standby man or men with suitable self-contained breathing apparatus shall be at the nearest fresh air base for emergency rescue.
- (3) For the safe use of any respirator, the user shall be properly instructed in its selection, use and maintenance.

1083.07 : Maintenance and Care of Respirators:

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

- (1) inspection for defects (including leak check),
- (2) cleaning and disinfecting, and
- (3) repair and storage.

1084 : Head Protection:

1084.01 : Head Protection:

- (1) Hard hats for the protection of workers from impact penetration from falling and flying objects, blows, and from limited electric shock and burns shall be provided where there is reasonable probability of exposure to such hazards.
- (2) Hard hats shall be made of non-combustible or slow-burning materials and when used in electrical environment shall be non-conductor of electricity.
- (3) The total weight of complete hard hat should not be more than 0.45 kgs. (16 ounces).
- (4) Hard hats shall have a brim all around to provide protection for the head, face and back of the neck.
- (5) Hard hats without brims and low crowns may be allowed only in confined spaces.
- (6) The cradle and sweatband of hard hats shall be detachable and replaceable.
- (7) For work in excessive moisture, hard hats shall be water-proof-material.

- (8) For the purpose of proper selection, design, construction, testing and use of head protectors the American National Standards Safety Requirement for Industrial Head Protection (ANSI z59-1-1969) is adopted.

1084.02: Hair Protection:

- (1) All persons with long hair employed around machinery shall completely cover their hair with well fitting caps or other equivalent protection.
- (2) Caps shall be of materials not easily flammable and sufficiently durable to withstand regular laundering, disinfecting and cleaning.

1085: Hand and Arm Protection:

1085.01: When selecting gloves, consideration should be given to the hazards to which the wearer may be exposed to and the ease and free movement of the fingers.

1085.02: Gloves shall not be worn by workers operating drills, punch presses or other machinery in which the hand may be caught by moving parts.

1085.03: Gloves, mittens, and leathers or pads for workers handling sharp edged or abrasive objects shall be made of tough materials and where necessary provided with special reinforcement.

1085.04: Gloves, mittens and sleeves for workers handling hot metals shall be made of suitable heat resisting material.

1085.05: Gloves and sleeves for electrical workers shall be made of rubber or other suitable materials conforming with the test requirements on dielectric strength.

1085.06: Gauntlets for workers handling corrosive substances, such as acids and caustics, shall be made of natural rubber, synthetic rubber or pliable plastic material resistant to corrosion.

1085.07: Gauntlets for protecting workers against the action of toxic, irritating or infectious substances shall:

- (1) cover the forearm as much as possible,
(2) have a close fit at the upper end and
(3) not have the slightest break.
- Gloves torn during use shall be replaced immediately.

1086 : Safety Belts, Life Lines and Safety Nets:

1086.01: General Provisions:

- (1) Workmen working in unguarded surface above open pits or tanks, steep slopes, moving machinery and similar locations, or working from unguarded surfaces six (6) meters (20 ft.) or more above water or ground, temporary or permanent floor platform, scaffold construction or where otherwise exposed to the possibility of falls hazardous to life or limb, shall be secured by safety belts and life lines. In situations where safety belts and life lines in guarded platforms and scaffolds or temporary floors are not feasible, safety nets shall be provided and installed.

- (2) Window washers or cleaners working outside buildings six (6) meters (20 ft.) or more above the ground or other surfaces unless protected from falling by other means, shall use safety belts attached to suitable anchors.
- (3) Workmen entering a sewer, flue, duct, or other similarly confined places shall be provided and required to wear safety belts with life lines attached and held by another person stationed at the opening ready to respond to agreed signals.
- (4) Workers who are required to climb and work on top of poles six (6) meters or more shall use safety belts. On top of structures where there is no place to strap a safety belt, a messenger line shall be installed for strapping the safety belt or life line.

1086.02 : Requirements:

- (1) Safety belts shall be made of chromed tanned leather, linen or cotton webbing, or other suitable materials at least 11.5 cm. (4 1/2 in.) wide and 0.65 cm. (1/4 in.) thick and of sufficient strength to support a weight of 114 kgs. (250 lbs.) without breaking.
- (2) Hardware used for safety belts should have a strength of approximately equal to the full strength of the waist band. Buckles shall hold securely without slippage or other failure. This holding power should be achieved by only a single insertion of the strap through the buckle in the normal or usual way.
- (3) Belt anchors shall be made of metal machined from bar stock, forged or heat treated, capable of supporting a pull of 2730 kgs. (6,000 lbs.) without fracture applied in the direction which the anchor must withstand should a man fall. All anchors and fastenings shall be provided with means to prevent turning, backing off or becoming loose. Anchor fittings with single thread section which is merely screwed into reinforcing plates shall not be used. Metals recommended for belt anchors are nickel copper alloy and stainless steel.
- (4) Life lines shall be made of good quality manila rope of at least 1.9 cm. (3/4 in.) diameter or equivalent material such as nylon rope of at least 1.27 cm. (1/2 in.) diameter and shall be of sufficient strength to support a weight of 1140 kgs. (2,500 lbs.) without breaking.
- (5) Safety nets shall not be less than 0.94 cm. (3/8 in.) diameter mesh ropes and not less than 1.90 cm. (3/4 in.) diameter border ropes (perimeter) made of manila rope or other materials that can absorb the impact of a falling body equally as nets fabricated from manila rope of the dimensions specified. The mesh shall be arranged not to exceed 15.25 cm. (6 in.) on canters positively and securely attached to avoid wear at each crossing point and at points of contact with the border.
- (6) Safety nets shall be equipped with adequately padded thimble sockets or equivalent means of attachments. Supports and anchorages shall be of sufficient size and strength to catch any falling worker. The nets shall be attached to sufficient supports outside and beyond the area of possible fall and supported at sufficient heights to prevent sagging to any solid object beneath when cushioning the fall of a worker.
- (7) Safety belts, life lines and safety nets shall be inspected before use and at least once each week thereafter. Defective belts, lines or nets shall be immediately discarded and replaced or repaired before reuse.

1087 : Use of Safety Shoes:

Workers shall be provided with approved safety shoes and leg protection whenever necessary as determined by the nature of work.

RULE 1090 HAZARDOUS MATERIALS

1091 : Scope:

The provisions of this Rule shall apply to all workplaces in which hazardous substances in solid, liquid or gaseous forms are manufactured, handled and used or in which flammable, irritating, offensive or toxic dusts, fibers, gases, mists or vapors are generated or released in quantities injurious to health.

1092 : Definitions:

When used in this Rule the following shall mean as follows:

- (1) "*Hazardous materials or substances*" mean substances in solid, liquid or gaseous forms known to constitute poison, fire, explosion or health hazard.
- (2) "*Corrosive*" when referred to the action on inanimate surface such as metal, glass or wood means that a substance will cause the wearing away, or the gradual changing or destroying of the texture or substance of such materials. When referred to the action on living tissue, means that it will cause more or less severe destruction of the tissue by chemical action.
- (3) "*Hot*" means that a material or substance possesses or is characterized by a relatively high temperature.
- (4) "*Gases*" means normally aeroform fluid, which have neither shape nor specific volume but tend to expand indefinitely and which can be changed to the liquid or solid state by the effect of increased pressure or decreased temperature.
- (5) "*Fumes*" means suspended solid particles, which are generated by condensation from gaseous state, generally after volatilisations from molten metals.
- (6) "*Vapor*" means gaseous form of substances which are normally in the liquid or solid state, and which can be changed to these states either by increasing the pressure or decreasing the temperature.
- (7) "*Mists*" means suspended liquid droplets generated by condensation from the gaseous to the liquid state or by breaking up of a liquid into a dispersed state, such as by atomizing, foaming or splashing.
- (8) "*Fibers*" means any tough solid substance composed of thread-like tissue, whether of mineral, vegetable or animal origin.
- (9) "*Dust*" means solid particles capable of being blown about or suspended in the air. generated by handling, crushing, cutting, drilling, grinding, rapid impact, spraying, detonations, or disintegration of inorganic or organic materials and are of a composition similar to the substance or substances from which derived.
- (10) "*Toxic*" means acting or likely to act as a poison, or may chemically produce injurious or deadly effect.
- (11) "*Irritating*" means causing undue sensitiveness of an organ or part of the body.

1093 : General Rules:

1093.01 : Reduction of Hazards:

When practicable, harmless substances shall be substituted for hazardous substances or the process shall be revised to reduce worker exposure to the hazards.

1093.02 : Control of Processes:

Any one or a combination of the following methods shall be used:

- (1) Hazardous processes shall be carried on in separate rooms or building with a minimum number of workers equipped with suitable protective equipment and trained thoroughly in safety practices for daily operations and for emergencies.
- (2) The process or operation shall be carried out in an air-tight enclosure to prevent personal contact with the harmful substances and the escape of dusts, fibers, fumes, gases, mists, or vapors into the air or room in which persons work.
- (3) Where airtight enclosures or apparatus cannot be used, harmful dusts, fibers, fumes, gases, mists, or vapors shall be removed at or near their point or origin by means of fume chambers or suction hoods properly connected to efficient exhaust system, and
- (4) Control by general ventilation to provide a continual inflow of fresh air to keep the concentration of contaminants within safe limits.

1093.03 : Use of Personal Protective Equipment:

- (1) Workers shall be provided with, and shall use personal protective clothing and equipment in accordance with the requirements of Rule 1080.
- (2) Personal protective equipment shall also be used to supplement control methods when such measures cannot adequately eliminate the hazard or when other measures are not possible.

1093.04 : Marking of Containers:

All containers with hazardous substances shall be properly labelled. No employer within the scope of this Rule shall accept any container of hazardous substances for use, handling or storage unless such container are labelled.

- (1) Specific *Labelling Requirements*: Labels shall contain the following information:
 - a. symbol of the relevant category of hazard of the substance contained; categories of hazards shall be explosive, flammable, oxidizing, toxic, corrosive and radioactive; symbols shall be in accordance with Figure 10 a;
 - b. trade name may be used in addition to the chemical name of the substance;
 - c. a description of the principal risk or risks;
 - d. a statement of the necessary precautions to be taken; and
 - e. if necessary, a statement of the first-aid or other simple measures to be taken in case of injury or emergency.
- (2) Other Aspects of Labelling
 - a. Shape of labels - warning labels shall be in rectangular shapes;
 - b. size of symbols - the height of the danger symbol shall be in relation to the size of the package or container upon which the label will be placed.
 - c. text on the labels shall be adequate in sizes to be clear and legible, and
 - d. in black on a white background.
- (3) *Marking of Labels*: All required markings shall be either lithographed or press-printed or engraved upon a paper label securely attached or applied to the outside surface of the container. Receptacles of over 18.92 liters (5 gallons) capacity may be marked with letters stencilled, stamped, or uniformly printed not less than 2.54 cm. (1 in.) in height. Marking shall not be defaced or obliterated by rain or other weather elements.

- (4) *Responsibility for Labelling:* **(a)**. The primary responsibility for the correct labelling of packages and containers of hazardous substances manufactured locally shall fall upon the manufacturers. For hazardous substances imported from foreign countries for purposes of distribution and retail to local users, responsibility for correct labelling of containers shall be the importer, distributor or retailer. **(b)**. When hazardous substances in a factory undergo a series of distribution or repacking processes over which the manufacturer has no contact, responsibility for labelling shall fall upon the distributors, wholesalers or retailers. **(c)**. The employer shall be responsible for labelling hazardous substances for use in his workplace other than those supplied by manufacturers or distributors; **(d)**. In case of transfer of hazardous substances from original containers to other containers, the employer shall be responsible for the proper labelling and identification of such substances; and **(e)** Unlabelled hazardous substances received by the employer shall be properly labelled and identified by him.
- (5) *Samples of Labels:* The sample labels in Figure 10a shall be used as guide.
- (6) *Condensing of Labels:* Where small containers present a problem in labelling for lack of adequate space, the following shall be applied:
- a. retain the symbol and the name of the product;
 - b. retain the statement of hazards;
 - c. consider omission of precautionary measures if they are clearly indicated in the symbol and in the statement of hazards; and
 - d. include precautionary measures for any additional hazards, which may be present because of the characteristic of the container, the nature of its use, and the training and experience of the user.

1093.05 : Testing of Atmosphere:

The atmosphere of workrooms shall be tested periodically at such intervals as may be necessary but not longer than annually, to ensure that the concentration of irritating or toxic dusts, fibers, fumes, gases, mists or vapors are kept within the threshold limit values specified in Rule 1070.

1093.06 : Ventilation and Exhaust Equipment:

Ventilation and exhaust equipment shall be inspected and tested periodically for safe and efficient operational performance.

1093.07 : Prevention of Dust Accumulation:

- (1) All parts of structure or equipment in which harmful dust is liberated shall be designed and installed so that the surfaces on which dust can accumulate are reduced to a minimum and shall be frequently cleaned.
- (2) In rooms where materials producing flammable dusts are processed, handled and stored;
 - a. dusts shall be removed daily from floors, equipment and other horizontal surfaces, preferably by means of appropriate vacuum apparatus; and
 - b. all fixtures, ledges, projections, bearings, sidewalks, ceilings and other parts shall be cleaned and freed of dusts at least once a week.
- (3) Floors:
Where practicable, floors or rooms in which harmful dust is liberated shall:
 - a. be smooth, impervious and easy to clean; and
 - b. not be covered with loose sheets, metal or other materials under which dust can accumulate.

1093.08 : Cleaning:

Where toxic and irritating substances are being handled, manufactured or used, the floors, walls, structural surfaces, work benches, tables and equipment shall be thoroughly cleaned daily by means of vacuum cleaning, wet brushing or sweeping, outside of working hours.

1093.09 : Precautionary Measures for Emergencies:

(1) *Warning Devices:*

In all workplaces where hazardous substances are manufactured, handled or used, suitable warning device shall be installed wherever possible, to alert the personnel in case of the liberation of dangerous quantities of said substances.

(2) *Training of Personnel:*

Workers shall be trained on procedures to control the liberation of hazardous substances, eliminate pollution, and to evacuate from the affected area in an orderly manner.

1093.10 : Working Clothing:

All personnel exposed to irritating or toxic substances shall be provided with appropriate protective clothing including head covering, which shall:

- (1) be removed before eating or leaving the premises and kept in places provided for the purpose;
- (2) not be taken out of the factory by the users for any purpose; and
- (3) be maintained in good condition and washed or cleaned at least once a week.

1093.11 : Spillage:

Spillage of irritating or toxic substances shall be removed as quickly as possible by the best technical and scientific means possible. and available.

1093.12 : Instruction on Health Hazards:

All workers shall be thoroughly informed of the health hazards connected with their work and the measures to be taken to protect themselves there from.

1093.13 : Meals:

The introduction, preparation and consumption of food, drink and tobacco in the workroom shall be prohibited.

1093.14 : Personal Cleanliness:

All workers exposed to toxic substances which enter the body through ingestion, shall be required to wash their faces and hands thoroughly before eating, drinking, smoking or before leaving the premises.

1093.15 : Time for Use of Washrooms:

A time allowance for the use of the washroom before the meal period and for the use of the shower bath at the end of the days' work shall be allotted to each worker employed in the manufacture or handling of the following:

- (1) irritating or toxic dry mineral or organic substances such as arsenic, chrome, lead, manganese, mercury, phosphorus, zinc and their compounds;

- (2) Superphosphates and their compounds;
- (3) Dust-producing toxic dyestuffs and pigments;
- (4) Dust-producing and coal-tar products such as pitch and soot; and
- (5) Radioactive substances.

1093.16 : Medical Aid:

All workers exposed to irritating or toxic substances shall be required to report promptly any physical complaints.

1093.17 : Exposure Records:

The employer shall maintain accurate record of employee exposure to potentially toxic materials which are required to be measured or monitored. This record shall be open to authorized agents and the workers exposed to such hazards.

1094 : Hot and Corrosive Substances:

1094.01 : Protection of Structure & Equipment:

In all workplaces where corrosive gases, fumes, mists or vapors are generated and liberated, adequate measures shall be taken to prevent damage to structural parts and factory equipment by corrosion.

1094.02 : Handling:

- (1) Corrosive or hot liquids should be handled in bulk by gravity system or pressure pump system, extending to the point or points of use so as to eliminate transporting in small container.
- (2) Emptying receptacles containing corrosives or hot liquids not provided with drain cock shall be by pumps, tipping appliances or other suitable apparatus.
- (3) Where portable receptacles are used for corrosive liquids, transport inside factories shall be effected without the escape of fumes or mists and preferably by mechanical means.
- (4) Receptacles shall be kept securely closed except during extraction of the contents.

1094.03 : Spillage of Acids and Alkalies:

- (1) Floors in rooms where corrosive liquids are manufactured, handled or used shall be kept as dry as possible.
- (2) Spillage should be avoided. Spilled corrosive liquid shall be guarded until removed to prevent workers from stepping or getting into contact with it.
- (3) Spilled or escaping corrosive acid shall not be absorbed by sawdust, waste cloth or other organic materials but shall be flushed out with water or neutralized with chalk or lime.

1094.04 : Diluting Acids:

When diluting acid with water, the acid shall be poured slowly into the water, with constant stirring of the mixture. Water shall never be poured into acid.

1094.05 : Physical Contact With Corrosive Substances:

- (1) Workers exposed to physical contact with corrosive or hot liquids or to caustic compounds of calcium, potassium, sodium or their dusts, shall be provided with and shall use protective clothing and equipment conforming to the requirements of Rule 1080.

- (2) In workrooms where corrosive liquids are manufactured, handled or used, clean running water, and quick operating eye fountains and shower baths shall be installed and maintained in or adjacent to such workrooms readily accessible to all workers.

1095 : Storage:

1095.01 : Vats and Tanks:

- (1) Vats, pans, and open tanks containing hot corrosive or toxic liquids shall, when the opening or top is less than 1 m (3.3 ft) above the floor or working level, be either:
 - a. raised so the top will not be less than 1 m(3.3 ft.) from the floor or working level, or
 - b. guarded on all sides by enclosures or by standard railings and when the top is less than 15 cm. (6 in.) above the floor shall be provided with standard toe- boards.

The provisions of a. and b. shall apply to every vat, pan or tank irrespective of the nature of the liquid it may contain.

- (2) Where vats, pans or open tanks containing hot, corrosive or toxic liquids adjoin, the space shall be fenced.
- (3) Vats, pans, or open tanks containing hot, corrosive or toxic liquids shall be provided with pipes or drains of sufficient capacity to carry off the contents without spilling or their backing up on the floor.
- (4) Above-ground tanks containing hot, corrosive or poisonous liquids shall be:
 - a. surrounded by pits, catch basins or depressions of sufficient size to hold the entire contents in case of rupture; and
 - b. provided with overflow pipes leading to tanks or to safe places outside the building.
- (5) Walkways shall not cross over open vats, pans or tanks containing hot, corrosive or toxic liquids. Where it is necessary to install service walkways for access to agitator drives or valves or for taking samples, such walkways shall be:
 - a. not less than 50 cm (20 in.) in width;
 - b. provided on both sides with standard railings and toeboards; and
 - c. kept clean and dry at all times.

1095.02 : Storage Tanks for Non-Flammable Hazardous Liquids:

- (1) Tanks used for storage of non-flammable hazardous liquids shall be:
 - a. located above ground or floor level;
 - b. supported so that leakage from any part of the tank will be noticeable;
 - c. surrounded with pits, catch basins or depressions of sufficient size to hold the entire contents of the largest tank in the event of rupture;
 - d. covered with protective paint to prevent corrosion from moisture or fumes; and
 - e. provided with stairways or permanent ladders and platforms, where necessary, for convenient and safe access to all parts of the tank and with floors or platforms preferably of metal grating.
- (2) Tanks used for storing non-flammable hazardous liquids shall not be placed above passageways.

- (3) Tanks used for storing non-flammable hazardous liquids stored in pits below ground level:
 - a. the pits shall be of concrete or masonry with sufficient space between the walls and the tanks to permit the passage of any person at any point; and
 - b. the tanks shall be mounted 38 to 45 cm. (15 to 18 in.) above the bottom of the pit.
- (4) Pits containing sunken tanks used for storing non-flammable hazardous liquids shall be provided with covers and fixed ladders for safe access.
- (5) All control-valves for sunken tanks used for storing non-flammable hazardous liquids shall be:
 - a. situated or of such design that they can be turned without any person entering the pit; and
 - b. provided with locking devices operated from the outlets of the pit.
- (6) Workers entering storage tanks and pits containing hazardous liquids shall be provided with personal protective clothing and equipment conforming to the requirements of Rule 1080.
- (7) Tanks used for storing corrosive or caustic liquids shall be provided with:
 - a. a permanent open wet pipe not less than 5 cm. (2 in.) in diameter at the highest point in the tank; and
 - b. a drain connection at the lowest point in the tank discharging into a safe place.
- (8) Tanks used for storing corrosive or caustic liquids shall have the filling connections at the top and the discharge pipes 15 cm. (6 in.) above the bottom.

1095.03 :

Drums containing acids shall be stored in cool places with the bung up. They shall be carefully opened each time the drum has been moved or once a week if stored for a period of time to relieve any internal pressure and subsequently sealed again.

1095.04 : Carboys for Acids:

- (1) Carboys containing acids shall be encased singly in baskets or in boxes cushioned with noncombustible packing material.
- (2) Carboys containing acids shall be stored in separate store rooms or buildings with concrete floors having anti-acid protection or with brick floors properly drained to catch basins, dry and protected from dampness, extreme heat or sudden change in temperature.
- (3) Carboys containing acids shall not be piled one on top of another but should be placed in suitable storage racks or on wooden strips laid on the floor.
- (4) Special handling equipment such as two-wheeled carboy trucks shall be provided for transporting carboys containing acids to and from storage.
- (5) Adequate equipment shall be provided and used for the emptying of carboys.
- (6) Empty acid carboys shall be stored apart from filled carboys.
- (7) Empty carboys shall be thoroughly washed out by turning them upside down over and upward with stream of water and drained before they are stored.
- (8) Carboys together with their baskets or boxes shall be examined as to their condition before they are filled with acid.

1096 : Use of Lead and Its Compounds:

1096.01 : Definitions:

"Lead Compounds" means any organic or inorganic derivatives of lead.

1096.02: Control Measures:

- (1) A substitute substance or agent less injurious or harmful shall be used instead of lead such as zinc oxide or titanium oxide instead of white lead in paint manufacture.
- (2) Processes involving the use of lead and its compounds shall be enclosed and mechanical handling methods should be used or employed.

1096.03: Storage and Handling:

Stocks of lead materials shall be kept in special storage rooms outside the workrooms. Workrooms in which lead materials are handled shall be located in relation to other parts of the shop of factory in as small an area as possible to confine the lead and to concentrate control measures in that area.

1096.04: Local Exhaust System:

Properly designed exhaust systems, capable of carrying or drawing of air contaminants to maintain or control the threshold limit value of lead in the atmosphere, shall be provided for all processes which generate lead, fumes or dusts. The contaminants removed shall not be allowed to re-enter the workrooms or to pollute other parts of the workplace or the surrounding areas.

1096.05: Personal Protective Equipment:

Appropriate protective equipment and clothing such as overalls, head covering, goggles, gloves, aprons and respirators shall be issued free of charge to lead workers by the employer who shall see to their proper use and maintenance.

1096.06: Smoking or Eating:

Smoking, chewing, eating and the keeping of food in workrooms where lead or its compounds are used and handled shall not be allowed.

1096.07: Storage Lockers:

Suitable storage lockers for street and work-clothes shall be issued to each worker exposed to lead and its compounds. Adequate washing facilities shall be provided.

1096.08: Physical Examination:

Workers exposed to lead shall be subjected to periodic physical examination and laboratory examination at intervals of not more than six (6) months and where the degree of contamination rises above the threshold limit value, such physical examination shall be conducted at least once every three (3) months and a record of such examinations shall be open to authorized agents and to the exposed workers.

RULE 1100

GAS AND ELECTRIC WELDING AND CUTTING OPERATIONS

1100.01: General Provisions:

- (1) Welding or cutting operations shall not be permitted in rooms or areas containing combustible materials or in proximity to explosives or flammable liquids, dusts, gases or vapors, until all fire and explosion hazards are eliminated.
- (2) Welding or cutting operations on containers filled with explosives or flammable substance is prohibited. Welding closed containers that have held explosive or flammable substance shall only be undertaken after the containers have been thoroughly cleaned and found completely free of combustible gases or vapors or the containers are filled with inert gas or with water.
- (3) Welding and cutting operations carried out or done in places where persons other than the welders work or pass shall be enclosed by means of suitable stationary or portable screens. Screens shall be opaque, of sturdy construction to withstand rough usage of a material which will not readily be set on fire by sparks or hot metal, at least 2 m. (6.5 ft.) high, and preferably painted with light flat paint.
- (4) A portable fire extinguisher shall be provided at the place where welding and cutting operations are being undertaken.
- (5) Authorization, before welding and cutting operations are allowed in large establishments, the area shall be inspected by the safetyman. He shall issue a written permit or authorization for welding and cutting, indicating therein the precautions to be followed to avoid fire or accidents.

1100.02: Personal Protective Equipment:

- (1) All workers or persons directly engaged in welding or cutting operations shall be provided with the following personal protective equipment:
 - a. goggles, helmets or head shields fitted with suitable filter lenses and hand shields;
and
 - b. suitable aprons.
- (2) all persons directly assisting in welding or cutting operations shall be provided with gloves, goggles or other protective clothings, as may be necessary.

1100.03: Welding or Cutting in Confined Spaces:

The inhalation of any fumes, gases or dusts by persons welding or cutting in confined spaces shall be prevented by the provision of:

- (1) Local exhaust and general ventilation system to keep fumes, gases or dusts within allowable concentrations or threshold limit values;
- (2) Approved types of respiratory protective equipment.

RULE 1120
HAZARDOUS WORK PROCESSES

1121 : Underground Tank and Similar Confined Space Work:

1121.01: General Provisions:

Before a worker or group of workers enter any confined or enclosed space and before any work is commenced, the following precautions and safety measures shall be taken:

- (1) the area shall be checked visually to ensure that the water level is below 15 cm. (6 in.) and if water is present, a dry wooden platform shall be available for use;
- (2) the air in the area shall be checked for:
 - a. explosive gases, fumes and vapors;
 - b. oxygen content and ;
 - c. carbon monoxide, if any burning or products of burning have been involved.
- (3) if any of the above is present over normal levels, the area shall not be entered until ventilation by blower is effected.
- (4) approved types of breathing apparatus and other personal protective equipment shall be provided and made available for use by the worker or workers entering a confined space;
- (5) no worker or group of workers shall enter a confined space unless a watcher is available who is familiar with the job and in contact with the men at regular intervals and equally provided with breathing apparatus for ready use in case of emergency;
- (6) no smoking or open lights, torches, arcs or flames shall be permitted in confined spaces until an inspection has been conducted to ensure that fire or explosion possibilities have been eliminated;
- (7) no spraying or painting using volatile solvents of oil shall be undertaken in confined spaces unless the necessary respiratory and other adequate protection are provided;
- (8) any manhole, tank opening, or other opening which is left unattended should be protected during the day by barricades, and at night by barricades and lanterns, with appropriate warning signs; and
- (9) adequate means of ingress and egress from any confined or enclosed space shall be provided.

RULE 1140 EXPLOSIVES

1141 : General Provisions:

1141.01:

The provisions of this Rule shall apply to the manufacture, handling and storage of explosives, fireworks and other pyrotechnic products.

1141.02:

For the transportation of explosives outside of the plant site, the Fire Code of the Philippines shall apply.

1141.03: Rule 20 of the Fire Code of the Philippines on Storage of Explosives is adopted.

1142 : Definitions:

- (1) *"Explosives"* shall mean and include any chemical compound or other substances intended for the purpose of producing an explosion or that which contains oxidizing or combustible unit or other ingredients in such proportion or quantity that ignition by fire, friction, concussion or detonation may produce an explosion capable of causing injury to persons or damage to property.
- (2) *"Inhabited Building"* shall mean a building regularly occupied in whole or in part as a habitation for human beings and includes church, school house, railroad station, store or other buildings where people assemble, other than buildings in explosive plants.
- (3) *"Explosives Plant"* shall mean and include all lands and the buildings situated thereon, used in connection with the manufacturing or processing of explosives or in which any process involving explosion is carried on, or the storage of explosives thereat, as well as any premises where explosives are used as a component part or ingredient in the manufacturing process.
- (4) *"Factory or Explosive Building"* shall mean a building or structure (except magazines) in which explosives are manufactured or any process involving explosives are carried on.
- (5) *"Magazine"* shall mean a building or structure, other than factory building, used exclusively for the storage of explosives.
- (6) *"Railway"* shall mean and include any steam, diesel, electric or other railroad or railway for public use.
- (7) *"Highway"* shall mean and include any public street, public alley, public road, or navigable stream used for transport.
- (8) *"Barricaded"* means that the building containing explosives is effectually screened from a magazine, building, railway or highway either by a natural barricade or by an artificial barricade of such height that a straight line from the eave line of any magazine or building containing explosives to a point 3.70 m. (12 ft.) above the center of a railway or highway will pass through such intervening natural or artificial barricade.
- (9) *"Natural Barricade"* means natural features of the ground which covers a building from another building or timber of sufficient density that the surrounding exposures which requires protection cannot be seen from the magazine when the trees are without leaves.

- (10) "Artificial Barricade" means an artificial mound or revetted wall of earth of a minimum thickness of one (1) meter (3.3 ft.).

1143 : Authorization:

- (1) Explosives shall be manufactured, handled or stored only in approved places.
- (2) Building authorized for use in the manufacture of explosives shall not be used for any other purpose.
- (3) Specially approved precautions shall be undertaken where primary or initiating explosives are manufactured, handled or stored in addition to the precautions contained herein.

1144 : Limitation:

1144.0 :

Building in which any quantity of explosives are manufactured, handled, used or temporarily stored shall be classified as "explosives buildings". These buildings wherein finished explosives are kept or are stored for periods exceeding forty eight (48) hours shall be classified as "Magazine".

1144.02:

Explosives materials used in loading detonators, timing or printing caps or other similar manufacturing processes shall not be stored in workrooms wherein people are employed except under the following conditions:

- (1) Where the quantity used for an eight-hour work does not exceed 45 kgs. (100 lbs.). Only this quantity shall be stored in the workroom at any one time and at a place where it shall be suitably protected from uncontrolled or irresponsible handling. Additional supply be brought from the magazine as needed after the first 45 kgs. (100 lbs.) is processed and transferred to magazines.

1144.03:

Explosives materials not in the process of manufacturing, use or leftover in any manufacturing process shall be stored in magazines.

1144.04:

Only a maximum of 136,360 kgs. (300,000 lbs.) or twenty million (20,000,000) blasting caps shall be stored in any one magazine.

1144.05:

Explosives or blasting caps shall not be stored or kept in any building used in whole or in part as a dwelling school, theater or any other place of public assembly.

1145 : Quantity and Distance Tables:

Explosives shall not be kept or stored other than in magazine of Class I and Class II types.

- (1) *Table of distance*

All buildings and magazines in explosives plants shall be located away from inhabited buildings, railways or highways, in conformity with Rule 1141.03.

(2) *Precautions:*

- a. The table of distance applies only to the manufacture and permanent storage of commercial explosives. It is not applicable to the transportation, handling or temporary storage of explosives. It is not intended to apply to bombs, projectiles or other heavily encased explosives.
- b. Where a building containing explosives is not barricaded, the distance shown shall be doubled.
- c. When two (2) or more storage magazines are located on the same property, each magazine shall comply with the minimum distance specified. In addition, they shall be separated from each other by not less than the distance shown for "separation of magazines", except that the quantity of explosives contained in cap magazine shall determine the spacing.
- d. If any two (2) or more magazines are separated from each other by less than the specified distances, such two or more magazines shall be considered as one and the total quantity of explosives stored shall be treated as stored in a single magazine with the specified minimum distances with other magazines, inhabited buildings, railways, highways and navigable streams complied with.

(3) *Intra-plant Quantity and Distance Table:*

All factory buildings in which explosives are processed, kept or stored shall be located apart from each other and from other buildings in the explosives plants and magazines shall be located away from factory and other buildings in explosives plants in conformity with Table 15.

(4) *Precautions to Table 15:*

Where a factory building or magazine is effectively barricaded, the distances specified may be reduced by "one half".

1146 : Storage of Explosives:

1146.01: Class I Explosives:

Class I magazines shall be those containing over 22.5 kgs. (50 lbs.) of explosives. Such magazines shall have no openings except for ventilation and entrance. It shall be of masonry or metal construction or a combination of both constructed and maintained as follows:

- (1) *Doors* - Doors must be kept closed and securely locked at all times except when opened for the purpose of storing or removing explosives or to allow persons authorized to enter such magazines.
- (2) *Signs* - The premises on which explosives are kept or stored must be conspicuously defined and marked by appropriate signs, such as, "EXPLOSIVE KEEP OFF", legibly printed thereon in letters not less than 15 cm. (6 in.) high. Such signs must not be placed on magazines but shall be so located that a bullets passing through the sign will not strike the magazine.
- (3) *Wood* - The outside walls shall be of 5 cm. x 10 cm. (2 in. x 4 in.) studding with a 5 cm. (2 in.) plank or tongued and grooved lumber having a nominal size of 2.5 cm. (1 in.) covered with not less than No. 26 gauge galvanized iron or steel on the outside. The inside walls shall be lined with tongued and grooved reefers. The space between the outer and inner walls shall be filled with dry course sand (not crushed stone or gravel) or a weak mixture of cement mortar. All lumber used shall be well seasoned and free from loose knots, bark edges or decay.

- 4) *Brick* - Brick walls shall be 20 cm. (8 in.) in thickness of medium soft variety laid in cement mortar containing not over 25% lime.
- 5) *Concrete* - Concrete walls shall be 15 cm. (6 in.) in thickness constructed of nine (9) parts sand to one (1) part cement with a 1.25 cm (1/2 in.) face surface of three (3) parts sand to one (1) part cement.
- 6) *Cement Block* - Cement block walls shall be 20 cm. (8 in.) thick hollow cement block, a mixture of seven (7) parts sand and one (1) part cement. The spaces in the block shall be filled with dry coarse sand (not crushed stone or gravel) or a weak mixture of cement mortar.
- 7) *Fabricated Metal* - Walls and roof shall consist of approximately No. 14 gauge metal securely fastened together. Walls shall be lined with 10 cm. (4 in.) of brick of at least a 15 cm. (6 in.) sand fill between the interior and exterior walls.
- 8) *Lining of Magazines* - Lining of magazines as specified in paragraphs (3) and (7) above, may not be required for the storage of black powder or for the storage of not more than 100,000 pieces of blasting caps.
- 9) *Foundation* - The foundation shall be of stone laid in concrete, wood posts or brick piers. Magazines of less than 13,600 kgs. (30,000 lbs.) capacity shall have flooring of lumber having a nominal size of 2.5 cm. (1 in.) tongued and grooved. Magazines of larger capacity shall have double flooring.
- 10) *Ventilation* - The floor and ceiling shall be constructed to within 5 cm. (2 in.) of the walls to provide a 3 cm. ventilation space. This shall be provided by constructing a 2.5 cm. x 15 cm. (1 in. x 6 in.) lattice wood lining on 5 cm. x 5 cm. (2 in. x 2 in.) wood stud 60 cm. (2 ft.) on centers. Foundation ventilators shall be spaced not more than 150 cm. (5 ft.) on center in all sides and properly screened to prevent the entrance of sparks of fire.
- 11) *Nails* - All heads of nails shall be countersunk. No spark producing metal shall be exposed inside the buildings.
- 12) *Doors* - The doors shall be 1 m. (3.28 ft.) wide and 1.8 m. (6 ft.) high constructed of at least three (3) layers of hard wood, having a nominal size of 2.5 cm. (1 in.) and covered on the outside with a steel sheet of at least No. 20 gauge. Where there is a need for bullet proofing the thickness of the steel sheet shall be a minimum of 1 cm. (3/8 in.).
- 13) *Roof* - Except where permission for other construction is approved, a bullet-proof sand roof shall be used constructed as follows:

Form a box by laying a floor of a good grade of tongue and groove boards on ceiling joists and build a 2.5 cm. x 10 cm. (1 x 4 in.) rim lined with one (1) layer of building paper and filled with 10 cm. (4 in.) of dry coarse sand. Except for fabricated metal magazines, the outer roof shall be covered with not less than No. 26 gauge galvanized iron ridge roll fastened to 2.2 cm (7/8 in.) sheathing.

- 14) *Gutters and Down Spouts* - Where water may enter through the door, gutters and down spouts shall be provided on the door sides.
- 15) *Materials and Workmanship* - Only superior materials and workmanship shall be used.

1146.02: Class II Magazines:

Class II magazines shall be used for storing not more than 22.5 kgs (50 lbs.) of explosives. It shall be of wood or metal construction or a combination of both.

- 1) *Construction* - The principle of construction is simply that of placing one box inside of another with a 12.5 cm. (5 in.) space in between filled with dry coarse sand, not gravel or crushed rock.

- (2) *Outer Box* - The outer box shall be constructed of tongued and grooved lumber having a nominal size of 2.5 cm. (1 in.) plain lumber. The outside of the box shall be covered with no less than No. 24 gauge iron sheet. The outer box shall be 0.33 m. (1 foot) longer, 0.33 m. (1 foot) wider, and 15 cm (6 in.) deeper than the inner box allowing a 12.5 cm. (5 in.) space on all sides for sand filling. The inner box shall be set inside the outer box with the tops at level with each other and fastened into place.
- (3) *Inner box* - The inside of all boxes shall be surfaced. No nail, bolt or metal screw heads shall be exposed on the inside of the box.
- (4) *Ventilation* - At the top of each box, on the sides and ends, cut 0.625 cm (1/4 in.) by 5 cm. (2 in.) notches, spaced about 0.33 m. (1 foot) apart, and not directly opposite.
- (5) *Setting* - The box (magazine) shall be set in a level position and supported by either wooden sills, bricks or piers and the bottom of the magazine kept at about 15 cm. (6 in.) off the ground.
- (6) *Sand Fill* - Fill the space between boxes with dry coarse sand (not gravel or crushed rock) to within 0.625 cm (1/4 in.) of the top. To prevent sand from falling into the storage space, a cover may be placed over the sand space.
- (7) *Locks* - magazines shall be provided with adequate locks.
- (8) *Signs* - At each end and on top of the magazine, above the side wall and on its barricades, there shall be conspicuously posted at all times appropriate, signs, such as, "MAGAZINE-EXPLOSIVE-DANGEROUS" legibly printed in letters not less than 15 cm. (6 in.) high.

1146.03: Temporary Storage At Job Sites:

- (1) When used for temporary storage at a job site for blasting operations, Class II magazines shall be located away from neighboring buildings, railways, highways and other magazines. A distance of at least 45 m. (150 ft.) shall be maintained between Class II Magazines and the work site when the quantity of explosives kept therein is in excess of 11.4 kgs. (25 lbs.) and at least 15 m. (50 ft.) when the quantity of explosives is 11.4 kgs (25 lbs.) or less. The enforcing authority may require greater separation between Class II magazines and the work site where conditions warrant.
- (2) Class II portable magazines for transporting small amounts of explosives from the permanent magazine to the work site and for temporary storage in the work site shall be constructed or built of 5 cm. (2 in.) hardwood or 7.5 cm. (3 in.) soft wood, well braced at corners, with sheet metal exterior sheathing.

1146.04: Existing Magazines:

- (1) Magazines existing prior to the promulgation of this Standards, which comply substantially with the intent and purpose of this requirement but not with the detailed specifications, may be allowed for a period of one (1) year subject to the reduction of capacity for the purpose of complying with the provisions of this Rule. The Secretary may require changes as are necessary to come into compliance, or to reduce magazine capacity in accordance with the requirements on construction or distance.

1146.05: Number of Employees:

The number of employees allowed in workrooms or portions of an explosives plant shall be limited to the minimum requirements of manufacturing.

1146.06 : Admission to Plants:

- (1) Explosives plants shall be fenced to prevent the entrance of person/s.

- (2) No person, other than authorized employees or duly authorized enforcement officers, shall be allowed in any explosives plant unless they have been given permission and accompanied by the owner or his authorized representative. A record of such visits shall be kept on file in the office signed in each case by the visitor/agent and the owner/representative.

1146.07 : Approval of Plans:

- (1) For purposes of this Rule, the plans of all buildings in the explosives plant shall be submitted to the Integrated National Police for approval copy furnished the Regional Labor Office concerned before such buildings are constructed with the following:
- a. Maps, plans or sketches of the topographical site showing the location of plant buildings, highways and also showing the existing barricades, if any, and barricades that are intended to be used. These plans shall be drawn to a scale of 1:2000 meters (100 or 200 feet to an inch) submitted in triplicate in white or blue print.
 - b. Plans and specifications of proposed magazines and other factory buildings drawn scale of at least 1.50 meters (1/4 in. to a foot) submitted in triplicate in white or blue print.
- (2) A copy of the approved plans shall be kept in the office of the plant superintendent of each plant for inspection by duly authorized representatives of the Secretary. The superintendent of each plant shall upon the demand of said representative, furnish the following information:
- a. the number of persons ordinarily engaged at work in or at each building or the maximum number allowed;
 - b. the maximum amount and kind of explosive materials allowed and present in each building at one time;
 - c. the nature and kind of work carried on in each building and whether or not such buildings are surrounded by natural or artificial barricades and dimension of each barricades;
 - d. record of visits and inspections; and other necessary information.

1146.08 : Certificates of Safety Inspection Fees:

- (1) Certificate of safety inspection issued by the Regional Office shall be required of all explosives plants showing compliance with the provisions of this Standards. Such certificates shall be valid for one (1) year from the date issued, renewable annually.
- (2) Safety Inspection Fee:
Refer to Rule 1970.

1146.09: General Precautions:

- (1) *Handling and Housekeeping*
- a. Packages of explosives shall not be opened within 15 m. (50 ft.) of any magazine. Only wooden, rubber, rawhide, fiber, zinc or babbitt mallet and wood wedge shall be used in opening packages of explosives.
 - b. All premises surrounding magazines must be kept free from bush, dry grass, and similar growth for at least 7.5 m. (25 ft.) around and no flammable materials shall be placed near or about magazines; and
 - c. only authorized persons shall have access to magazines.

(2) *Lighting:*

- a. No open or naked lights such as lanterns, stoves and torches shall be allowed in rooms or portions of manufacturing plants. Watchmen or others using portable lighting shall be supplied with electric safety flash lights or electric safety lanterns.
- b. No artificial light shall be used in magazines except approved portable electric dry cell battery lamps or lanterns.
- c. Rooms or portions of plants shall be lighted, if artificial light is needed, by means of an electric system installed in conduit or in lead encased cables, with vapor proof lamps. All switches or fuses shall be located in a protected place away from such rooms or buildings. All lights, if possible, shall be protected by reflections into rooms from the outside. The use of electric motors other than those of a sparkless induction type, is prohibited.

(3) *Materials Allowed in Explosives Buildings:*

- a. all explosives building shall be kept clear of all unnecessary loose tools, refuse and debris of any kind at all times, and shall not be used as temporary storehouse of materials not necessary in the process of manufacture.
- b. explosives buildings, white containing explosives, shall not be used as storehouse for implements and any other material.

(4) *Matches:*

Workers shall not be allowed to carry at all times inside explosives plants, any match or other flame-producing device, unless he is authorized in writing by the plant superintendent. In such case, only safety matches shall be used and such entry and authorization properly recorded and open for inspection.

(5) *Clothing of Employees:*

- a. all employees handling loose explosive or working in or around buildings used for manufacturing explosives shall wear rubber soled shoes, without iron or steel nails and with no metal attachments.
- b. all explosives buildings shall be provided at each entrance with suitable device whereby the shoes of all persons entering such buildings can be cleaned.

(6) *Change or Locker House:*

Suitable change or locker houses shall be provided where employees can wash and change their clothes. No lockers shall be allowed in explosives buildings.

(7) *Transportation, Machinery and Platforms:*

- a. all trucks or conveyors used for the transportation of loose explosives materials, except smokeless powder not in dry state or wet nitro compounds, shall be provided with side or end rails or guards to prevent any concentration of explosives from slipping off the truck.
- b. careful inspection shall be made daily by the plant foreman to see that all machinery and equipment used in the manufacture or handling of explosives are in perfect order. If any is found not in good order, it shall not be used until placed in perfect condition.
- c. all dangerous machinery and moving parts of machinery shall be guarded.

- d. all platforms, stairways, tanks, vats, runways, and other dangerous places shall be guarded by standard railings and toeboards. Where there is danger of dust collection, toeboards shall not be used. Metals shall not be used for railings and toeboards where its presence increase the danger of an explosion. No railings or toeboards shall be installed that will interfere with safety exits.
- e. the tread of all wheels on trucks or conveyors or the rails used inside the explosives buildings shall be of nonsparkling materials.

(8) *Hand Carrying of Explosives:*

When explosives are carried from one building to another or from magazines to workrooms, employees carrying such explosives shall not be allowed to follow each other closely but must allow an interval of at least one (1) minute in time or 30 m. (110 ft.) in distance.

(9) *Cleanliness:*

- a. if any explosive material or ingredient is spilled, it shall be cleaned immediately.
- b. all floors of explosives buildings shall be free, as much as possible, from cracks, openings for any irregularities. No projecting or visible iron or steel nails shall be permitted on such floors.

1146.10 : Protection Against Lightning:

- (1) Lightning protection shall be provided for all electric conduits and circuits entering explosives buildings by means of suitable lightning arresters installed outside the buildings.
- (2) Unless otherwise approved by the Regional Director, recommended lightning protection for magazine shall be constructed as follows:

a. *Magazine for 2,270 kgs. (5, 000 lbs.) or less.*

A vertical conductor of 2 cm. x 0.3 cm. (3/4 in. x 1/8 in.) copper tape attached to a vertical pole which shall be installed so that the horizontal distance between the conductor and the nearest part of the magazine shall not be less than 1.2 m (4 ft.). Joints in the conductor shall be tinned and riveted with 0.47 cm. (3/16 in.) copper rivet. The conductor shall terminate at least 3 m. (10 ft.) higher than the highest point of the magazine. The lower end of the conductor shall be attached to a point of at least 7.5 cm. (3 in.) above ground level by 0.47 cm. (3/16 in.) copper rivets to one or more copper rods 2 cm. (3/4 in.) in diameter which have been driven vertically into the ground to a depth of at least 3 m. (10 ft.). The resistance to earth shall be less than 10 ohms.

b. *Magazine for 2,270 kgs. (5, 000 lbs.) explosive or more:*

Masts shall be erected at each end of the longer axis of the magazine and at least 0.33 m. (1 foot) from any part of the magazine. Copper tape 2 cm. x 0.3 cm. (3/4 in. x 1/8 in.) shall be attached to the mast. The conductor shall terminate at least 0.33 m. (1 foot) above the top of the mast and at a point of at least 7.5 cm. (3 in.) above ground level attached by 2 cm. (3/4 in.) in diameter copper rods which have been driven at least 3 m. (10 ft.) vertically into the ground. An aerial of 2 cm. x 0.3 cm. (3/4 in. x 1/8 in.) copper tape shall be suspended between the masts so that it is either horizontal or curved upwards in the middle and is at least 3 m. (10 ft.) higher than the highest part of the magazines. The aerial shall be attached to the copper tape conductors by 2 cm. (3/4 in.) copper rivets and binds of at least 0.6 m. (2 ft.) radius. Joints in the aerial and vertical conductors shall be tinned and riveted with 2 cm. (3/4 in.) copper rivets. The resistance to earth shall be less than 10 ohms.

c. *Method of Determining the Resistance to Earth:*

The use of megger "Earth Tester" or similar instrument is recommended.

d. *Earth Termination:*

Where the nature of the ground makes the driving of the earth rods impossible, other construction providing the same resistance to earth may be allowed by the enforcing authority.

1147 : Records of Disposition of Explosives:

Every person, firm, association, or corporation manufacturing, selling, giving away, or distributing explosives, shall keep at all times an accurate journal or record in which purchase of explosives powder and every sale or disposition of explosives are legibly entered. Such record must show the names and addresses of persons to whom sales or dispositions were made, name of persons to whom delivered, and the nature of business or persons receiving the same. Other pertinent data shall be furnished the Integrated National Police or its authorized representative, copy furnished the Regional Labor Office.

TABLE 15

TABLE OF DISTANCES FOR STORAGE OF EXPLOSIVES

EXPLOSIVES						EXPLOSIVES					
DISTANCE IN FEET WHEN STORAGE IS BARRICADED						DISTANCE IN FEET WHEN STORAGE IS BARRICADED					
Pounds Over	Pounds Not Over	Inhabited Buildings	Passenger Railways	Public Highways	Separation of Magazines	Pounds Over	Pounds Not Over	Inhabited Buildings	Passenger Railways	Public Highways	Separation of Magazines
2	6	70	30	30	6	500	600	340	135	135	31
5	10	90	35	35	8	600	700	355	145	145	32
10	20	110	45	45	10	700	800	375	150	150	33
20	30	125	50	50	11	800	900	390	155	155	35
30	40	140	55	55	12	900	1,000	400	160	160	36
40	50	150	60	60	14	1,000	1,200	425	170	165	39
50	75	170	70	70	15	1,200	1,400	450	180	170	41
75	100	180	75	75	16	1,400	1,600	470	190	175	43
100	125	200	80	80	18	1,600	1,800	490	195	180	44
125	150	215	85	85	19	1,800	2,000	505	205	185	45
150	200	235	95	95	21	2,000	2,500	545	220	190	49
200	250	255	105	105	23	2,500	3,000	580	235	195	52
250	300	270	110	110	24	3,000	4,000	635	255	210	58
300	400	295	120	120	27	4,000	5,000	685	275	225	61
400	500	320	130	130	29	5,000	6,000	730	295	235	65
6,000	7,000	770	310	245	68	75,000	80,000	1,695	690	510	165
7,000	8,000	800	320	250	72	80,000	85,000	1,730	705	520	170
8,000	9,000	835	335	255	75	85,000	90,000	1,760	720	530	175
9,000	10,000	865	345	260	78	90,000	95,000	1,790	730	540	180
10,000	12,000	875	370	270	82	95,000	100,000	1,815	745	545	185
12,000	14,000	885	390	275	87	100,000	110,000	1,835	770	550	195
14,000	16,000	900	405	280	90	110,000	120,000	1,855	790	555	205
16,000	18,000	940	420	285	94	120,000	130,000	1,875	810	560	215
18,000	20,000	975	435	290	98	130,000	140,000	1,890	835	565	225
20,000	25,000	1,055	470	315	105	140,000	150,000	1,900	850	570	235
25,000	30,000	1,130	500	340	112	150,000	160,000	1,935	870	580	245
30,000	35,000	1,205	525	360	119	160,000	170,000	1,965	890	590	255
35,000	40,000	1,275	550	380	124	170,000	180,000	1,990	905	600	265
40,000	45,000	1,340	570	400	129	180,000	190,000	2,010	920	605	275
45,000	50,000	1,400	590	420	135	190,000	200,000	2,030	935	610	285
50,000	55,000	1,460	610	440	140	200,000	210,000	2,055	955	620	295
55,000	60,000	1,515	630	455	145	210,000	230,000	2,100	980	635	315
60,000	65,000	1,565	645	470	150	230,000	250,000	2,155	1,010	650	335
65,000	70,000	1,610	660	485	155	250,000	275,000	2,215	1,040	670	360
70,000	75,000	1,655	675	500	160	275,000	300,000	2,275	1,075	690	385

TABLE 15a**INTRA-PLANT QUANTITY AND DISTANCE TABLE**

Pounds Over	Explosives	Pounds Not Over	Distance Feet Separate building or within substantial dividing walls
		10	
10		25	40
25		50	60
50		100	80
100		200	100
200		300	120
300		400	130
400		500	140
500		750	160
750		1,000	180
1,000		1,500	210
1,500		2,000	230
2,000		3,000	260
3,000		4,000	280
4,000		5,000	300
5,000		6,000	320
6,000		7,000	340
7,000		8,000	360
8,000		9,000	380
9,000		10,000	400
10,000		12,500	420
12,500		15,000	450
15,000		17,500	470
17,500		20,000	490
20,000		25,000	530
25,000		30,000	560
30,000		35,000	590
35,000		40,000	620
40,000		45,000	640
45,000		50,000	660
50,000		55,000	680
55,000		60,000	700
60,000		65,000	720
65,000		70,000	740
70,000		75,000	770
75,000		80,000	780
80,000		85,000	790
85,000		90,000	800
90,000		95,000	820
95,000		100,000	830
100,000		125,000	900
125,000		150,000	950
150,000		175,000	1,000
175,000		200,000	1,050
200,000		225,000	1,100
225,000		250,000	1,150

RULE 1150
MATERIALS HANDLING AND STORAGE

1150.01 : General Provisions:

- (1) *Use of Mechanical Equipment.* Where mechanical handling equipment is used, sufficient safe clearance shall be allowed for aisles, at loading docks, through doorways and wherever turns or passage must be made. Aisles and passageways shall be kept clear and in good repair, with no obstruction across or in aisles that could create a hazard. Permanent aisles and passageways shall be appropriately marked.
- (2) *Secure Storage.* Storage of material shall not create a hazard. Bag containers, bundle, etc., stored in tiers shall be stacked, blocked, interlocked and limited in height so that they are stable and secure against sliding or collapse.
- (3) *Housekeeping.* Storage areas shall be kept free from accumulations of materials that constitute hazards from tripping, fire, explosion, or pest harborage. Vegetation control shall be exercised when necessary.
- (4) *Clearance Limits.* Clearance signs to warn of clearance limits shall be provided.
- (5) *Rolling Railroad Cars.* Derail and/or bumper blocks shall be provided on spur railroad tracks where a rolling car could contact other cars being worked, enter a building, work or traffic area.
- (6) *Guarding.* Covers and/or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc.

RULE 1160 BOILER

1161 : Definitions:

- (1) "Steam Boiler" shall mean any closed vessel wherein steam or other vapor is or is intended to be generated above atmospheric pressure by the application of fire, by the product of combustion, by electrical means, or by other heat source.
- (2) "Power Boiler" shall mean a steam boiler with a working pressure exceeding 1.055-kg/cm² gauge (15 psig).
- (3) "Miniature Boiler" shall mean a power boiler, which does not exceed any of the following limits.
 - a. 40.5 cm (16 in.) inside diameter of shell;
 - b. 106.5 cm (42 in.) overall length of the shell;
 - c. 1.85 m.2 (20 ft²) water heating surface, or;
 - d. 7.03 kg/cm² (100 psig) maximum allowable working pressure.
- (4) "Low Pressure Heating Boiler" shall mean a steam boiler used exclusively for operation at a pressure not exceeding 1.055 kg/cm² (15 psig) or a temperature not exceeding 121°C). (250°F).
- (5) "Hot Water Boiler" a vessel completely filled with water and is intended to be heated above atmospheric pressure by the application of fire or such products of combustion, by electrical means, or other heat source.
- (6) "Working Pressure" shall mean gauge pressure above atmospheric pressure in kg./cm²(psig).
- (7) "Boiler Horsepower" in the absence of Manufacturer's Data, Boiler Horsepower shall mean the equivalent of 0.95 sq. m. (10 sq. ft.) of heating surface for vertical tube boilers and the equivalent of 0.46 sq. m. (5 sq. ft.) of heating surface for other types.

1162 : General Provisions:

- (1) No boiler shall be installed and/or operated in the Philippines without the permit issued for the purpose by the Secretary of Labor or his/her authorized representative.
- (2) Application for installation of a new boiler shall be filed with the Bureau or in the Regional Office with available professional mechanical engineer (PME) for processing and verification accompanied by the manufacturer's data sheets, working drawings, foundation design computation, installation and location plans, all in five (5) copies (with print).
- (3) Application to locally fabricate boilers shall be filed in five (5) copies with the Bureau or in the Regional Office concerned, accompanied by design drawings, computations and specifications.
- (4) Major repair work on pressure parts of boilers shall be done after the details of the repair and the design plan shall have been processed and cleared by the Bureau or Regional Office. After repairs, the boiler shall not be operated or used without the permit issued by the Secretary.
- (5) Any removal and/or change of location or ownership of a steam boiler shall be reported to the Bureau or Regional Office concerned by the old and new owners not later than thirty (30) days after the sale or transfer. Such boilers shall not be operated or used without the required permit.

- (6) All portable pressure vessels with operating permit issued by the Secretary or his/her authorized representative shall be honored in the Philippines during the period covering the permit.
- (7) The minimum personnel requirement in the operation of boilers shall be in accordance with Section 36, Article IV of R.A. 8495, otherwise known as "The Philippine Mechanical Engineering Act of 1998".

1162.01 : Standards Requirements:

For purposes of fabrication, as well as inspection, checking, test and other consideration prior to the approval/clearance of any of the fabrication and installation application and plans and use of any boiler, the following in accordance with the latest revision, are hereby adapted:

- (1) ASME Boiler and Pressure Vessel Code;
- (2) ASME Code for Pressure Piping;
- (3) API Code for Petroleum Gases and Liquids;
- (4) ISO Code; and
- (5) The Philippine Society of Mechanical Engineers (PSME) Code.

1162.02 : Inspection of Boilers:

- (1) The Regional Office concerned through its authorized technical safety inspectors shall conduct inspection, both internally and externally on all boiler parts and appliances on the following phases of work:
 - a. During construction or fabrication if manufactured in the Philippines and hydrostatically tested at 1.5 times the design pressure after completion of work;
 - b. Before being placed into service after completion of installation and hydrostatically tested at 1.5 times the design pressure;
 - c. Before being placed into service after completion of reconstruction or repair and hydrostatically tested 1.2 times the maximum working or operating pressure; and
 - d. Periodically at intervals of not exceeding twelve (12) months.

The Regional Office concerned shall serve Notice of Inspection for the annual inspection of boiler to the owner/user thirty (30) days before the expiration of the permit to operate the boiler and at exact date of scheduled inspection, the owner/user shall have the boiler drained, cooled, opened-up and thoroughly cleaned for the conduct of internal and external inspection on all boiler parts and appliances. Hydrostatic pump shall always be made ready just in case the boiler is to be subjected to a hydrostatic test.

- (2) The result of internal and external conduct of inspection on all boiler parts and appliances, may upon the discretionary power/privilege of the technical safety inspection authority, decide whether or not to subject the boiler to a hydrostatic test.
- (3) Boiler subjected to hydrostatic test shall be:
 - a. with a test pressure equal to 1.2 times the maximum working or operating pressure. The minimum temperature of the water used shall not be less than 21°C (70°F) and a maximum temperature not to exceed 71°C (160°F)
 - b. under proper control, to reach the required test pressure gradually and in no case shall this test pressure be exceeded by more than six percent (6%).
- (4) During hydrostatic test, the safety valves shall be removed and the valves disc held down by means of testing clamps and not by screwing down the compression screw upon the spring.

- (5) In lieu of hydrostatic test, radiographic, ultrasonic, thickness gauging magnetic particle, liquid penetrant and/or other equivalent non-destructive test shall be performed on the boiler head, shell and tubes, including operational test on boiler instruments and appliances. All test shall be performed in the presence of the inspection authority. The test results shall be certified true and correct, and sealed by a professional mechanical engineer (PME) and signed by the owner/user as well.
- (6) Boilers found unsafe shall not be operated until the boiler defect/s is/are corrected and their fittings are in good condition to ensure safe operation.

1162.03 : Age Limit of Lap-Riveted Boilers:

The age limit of a horizontal return tubular boiler having a longitudinal lap joint and carrying over 3.5 kg/cm.² g. (50 psig.) pressure shall be twenty-five (25) years. No riveted joint boiler shall be discontinued from service solely on account of age. However, within a period of five (5) years after the effectivity of this Standards, a joint lap-riveted boiler maybe used provided that the lap-joints are thoroughly investigated particularly for cracks in the lap-joints, the boiler tested hydrostatically to 1.2 times its working pressure and the general condition of the shell, tubes, sheets, joints, rivets and other parts warrant further use of the boiler, as found by the safety engineer in the presence of the owner's/establishment's plant mechanical engineer provided however that the total service age of the boiler is not more than twenty five (25) years.

1162.04 : Construction of Steam Boilers:

- (1) Steam boilers are to be constructed in accordance with the procedures/processs of the standards requirements provided under rule 1162.01
- (2) Steam boilers, their fittings and attachments shall be:
 - a. designed to adopt to the condition of their use; and
 - b. constructed of sufficient strength to sustain internal pressure to which they are normally subjected.

1162.05 : Boiler Records:

- (1) Every boiler shall be accompanied by a certificate showing all the technical specifications used by the manufacturers including all the design standards and dimensions and the maker's nameplate affixed on the boiler.
- (2) All second hand or rehabilitated boilers shall be accompanied by detailed working drawings and certificates executed by a Professional Mechanical Engineer calculating the ultimate tensile stress which shall not exceed 3,873 kg./cm.² and (55,000 psi), the joint efficiency of not more than 90% for radio graphed and heat-treated butt fusion weld, and a factor of safety of not less than five (5).
- (3) The certificates shall also contain the results of all the control test conducted during the manufacture of the material and the construction of the boiler.
- (4) The certificates shall be kept on file by the owner, ready and available to present during the course of inspection.
- (5) Every boiler owner/user shall keep a boiler maintenance register which shall show the dates of all the tests, internal and external inspections, replacements and repairs.

1163 : Power Boilers

1163.01 : Boiler Rooms:

- (1) Clearance around the boiler to the boiler room wall or any equipment shall be at least 100 cm. (3.28 ft.). Boiler room shall have two independent doors for easy access.

- a. in separate buildings of fire-resistant materials used for no other purpose and situated not less than 3 m. (10 ft.) away from buildings not forming part of the factory, or
 - b. in structure of fire-resistant materials if situated in the same factory buildings or in close proximity to other factory buildings.
- (2) Where power boiler room adjoins workrooms in which flammable or explosive substances are manufactured, used, handled, or liberated, there shall be no exits or other wall openings in the intervening walls.
 - (3) Power boiler rooms, blow-offs, ash pits or high pressure steam line tunnels and other places where there is danger or workers being trapped in the event of explosion or rupture of steam lines, shall be provided with not less than (2) adequate exits which shall be kept clear of any obstructions.
 - (4) Rails, walls, runways and stairs of iron or steel construction with non-slip surface shall be provided for convenient and safe access to overhead valves, water columns, feed water regulators and other fittings.
 - (5) Runways located on top or alongside a battery of power boilers shall be provided with not less than two (2) means of descent.
 - (6) Power boiler rooms shall be of sufficient height to permit installation and operation of all valves and safety devices with a minimum clearance of 90 cm. (3 ft.) above the highest valve fitting or levers.
 - (7) Pits in power boiler rooms shall be covered or guarded by standard railings and toeboards.
 - (8) Where power boilers are supported by structural steel work, the support shall be located or insulated that the heat from the furnace cannot impair the strength of the steel.
 - (9) Power boiler settings shall be provided with suitably packed openings or sleeves of sufficient size to permit the expansion and contraction of the pipes.
 - (10) Wet-bottom stationary boiler shall have a space of not less than 30 cm. (12 in.) between the bottom of the boiler and the floor line to provide access for maintenance or inspection.
 - (11) Clearance around the boiler to the boiler room wall or any equipment shall be at least 90 cm. (3 ft.). Boiler room shall have two independent doors for easy access.

1163.02: Factors of Safety:

The working pressure shall be reduced to maintain a factor of safety of not less than five (5) of such other factor as may have been specified/fixed in the specification, to which the boiler was made by increasing the factor of safety by ten percent (10%) or more as determined by the enforcing authority under the following conditions:

- a. the inspection shows signs of deterioration affecting the integrity of the boiler/s unless repair is/are undertaken: and
- b. after twenty five (25) years of service

1163.03: Access and Inspection:

Power boiler or parts thereof shall be equipped with suitable manholes or other openings for inspection, examination and cleaning.

- (1) Hand-hole openings in heads or shells of power boilers shall not be less than 70mm. x 90 mm. (2 ³/₄ in 3 ¹/₂ in).

- (2) Each power boiler shall be equipped with at least one (1) safety valve if the heating surface is 46.5 sq.m. (500 sq.ft.) or less and two (2) or more if the heating surface is over. The safety valves shall be:
 - a.) place as close as possible to the boiler;
 - b.) connected to the boiler independent of any other steam connection; and
 - c.) place between the boiler and the discharge point when installed in the pipeline.
- (3) The safety valve or valves on power boilers shall be of sufficient capacity to discharge all the steam generated by the boiler without allowing the pressure to rise to more than:
 - a.) six percent (6%) above the maximum allowable working pressure; or
 - b.) six percent (6%) above the highest pressure to which any valve is set.
- (4) Seats and discs of safety valve for power boilers shall be of suitable corrosion-resistant materials and the seat shall be secured on the valve body to avoid the possibility of the seat lifting off.
- (5) Safety valves for power boilers shall be constructed, tested and maintained in the following manner:
 - a. the failure of any part will not obstruct the free and full discharge of steam from the valves;
 - b. no shock injurious to the valves or to the boiler shall result from its operations; and
 - c. the valve can be turned on its seat.
- (6) Safety valves for power boilers shall be:
 - a.) capable of being adjusted and set to operate without chattering.
 - b.) sealed or otherwise protected to prevent tampering by any unauthorized person;
 - c.) provided with a special means for lifting the valve for testing purposes; and
 - d.) located to enable the boiler attendant to hear readily the discharge.
- (7) Safety valves discharge outlets for power boiler shall be located or piped out away from running boards and platforms, preferably not less than 3 meters. (10 ft.) above the platforms.
- (8) When the discharge pipes are used on safety valves for power boilers, they shall be:
 - a.) not less in cross-sectional area than the full area of the valve outlets, and
 - b.) fitted with open drains to prevent water lagging in the upper part of the valves or in the pipes.
- 9) When mufflers are used on safety valves for power boilers, they shall:
 - a.) have sufficient outlet area to prevent back pressure from interfering with the proper operation and discharge capacity of the valves and
 - b.) be constructed to avoid any possibility of obstruction of the steam passage due to deposits.
- 10.) Superheaters arranged in a manner that they can be isolated from power boilers shall be located near the steam outlet. However, valve or valves may be located anywhere in the lengths of the outlet heater if there is a uniform flow of steam through the superheater tubes and heater.

- (11) Economizers used on power boilers shall be equipped with at least one (1) safety valve provided with seats and discs of corrosion resistant materials, if there is an isolating valve between the drum and economizer.
- (12) Miniature boilers shall be equipped with sealed safety valves connected directly to the boiler. Miniature boilers with no extraction of steam (closed system), may in addition to safety valves, be provided with a rupture disc relieving device.

1163.04 : Stop Valves:

- (1) Steam discharge outlets on boilers, except safety valves, shall be equipped with stop valves located at an accessible point in the steam delivery line and as near the boiler as practicable.
- (2) Quick and convenient means of manipulating the principal stop valves on power boilers shall be provided:
 - a. by extending the valve spindles so that the valve wheels may be operated:
 - i. from the floors of the boiler rooms by means of chains, gears or other mechanical devices, or
 - ii. from outside the boiler rooms in case of emergency.
 - b. by installing remote control stations for electrically operated valves in a protected space where they may be operated without danger.
- (3) When two or more power boilers are connected to a common steam main, the steam connection from each boiler equipped with a manually opened valve shall be fitted with two stop valves having between them an ample free-flow drain. The discharge shall be visible to the operator while manipulating the valves.
- (4) When stop valves on power boilers are located where water may accumulate, ample drain shall be provided.

1163.05 : Water Column Pipes:

- (1) Pipes connecting water columns to power boilers shall not be less than 25 mm. (1 in.) pipe size, and as short and direct as possible.
- (2) Horizontal return to water columns shall be taken from the top of the shell in the upper part of the head and the water connections from a point not less than 15 cm. (6 in.) below the lowest center line of the shell.
- (3) On the fire box type of power boilers, the water connections shall be taken from a point not less than 25 cm. (10 in.) below the lowest water line or as near thereto as possible, and in no case less than 45 cm. (18 in.) above the mud ring.
- (4) Whenever practicable, water connection from power boilers to water column shall be provided with a cross at each right angle turn, to facilitate cleaning.
- (5) Water columns on power boilers shall be fitted with drain cocks or drain valves with suitable connections to a safe point of disposal.
- (6) No outlet connection allowing the escape of an appreciable amount of steam or water shall be placed on pipes connecting water column to medium and high pressure boilers, except for damper regulators or feed water regulators, drain, steam gauges or apparatus of similar form.

1163.06 : Steam Gauges:

- (1) Each power boiler shall be equipped with steam pressure gauge, placed as follows:
 - a. free from vibrations;
 - b. conveniently adjusted; and
 - c. afford a clear and unobstructed view to the attendant from the usual operating position, in front or at the side.
- (2) Steam gauges, in satisfactory working condition for power boilers, shall be connected to the steam space or to the water column on its steam connection by siphons or equivalent devices, which shall be:
 - a. of sufficient capacity to keep the gauge tube filled with water; and
 - b. arranged that the gauge cannot be shut-off from the boiler, except:
 - i. by a cock placed near the gauge and provided with the level handle fitted parallel to the pipe when the cock is open, or
 - ii. by a cock or shut-off valve of 35 kg/cm²g (500 psig.) rating or over.
- (3) Steam gauges connection for power boilers shall be as short as practicable.
- (4) Dials of steam gauges for power boilers shall:
 - a. be of a size and marked that the graduations of the pointer can be clearly determined by a person with normal vision from a distance equal to one and one half (1 1/2) times the width of the boiler front;
 - b. be graduated to not less than 1 1/2 times the pressure at which the safety valve is set, preferably to about double such pressure. The graduation shall be so arranged that the pointer will be at nearly vertical position when indicating the working pressure; and
 - c. have the working pressure indicated in red on the dial.
- (5) All steam gauges in any power boiler room shall be of the same type, size and graduation.
- (6) Each power boiler shall be provided with a valve connection near the regular connection of the steam gauges for the exclusive purpose of attaching gauge set.

1163.07 : Water Gauge Glasses:

- (1) Each power boiler, except once-through boilers with no fixed steam and water-lines, shall be equipped with at least one (1) water gauge glass which shall be:
 - a. located within the range of vision of the boiler attendant;
 - b. fitted at top and bottom with quick closing valves easily closed from the floor in case the glass breaks;
 - c. connected to the water column or directly to the boiler by piping of not less than 12 mm. (15/32 in.) diameter;
 - d. equipped with a valve drain piped to a safe point of disposal; and
 - e. provided with a wire glass or other suitable guard for the protection of workers from flying glass or escaping hot water in case of breakage, and such guard shall not obstruct free observation of water level.

- (2) Water gauge glasses on power boilers shall be located in such a way that when the visible water level is at its lowest reading in the glass, the reading should not be less than:
 - a. 75 mm (3 in.) of water over the highest point of the tubes, flues or crown sheets in horizontal fire tube power boilers; or
 - b. 50 mm. (2 in.) of water above the lowest permissible level in water tube power boilers.
- (3) Miniature boilers operating on the closed system, where there is insufficient space for the usual water gauge glass, may be provided with water level indicators of the glass bull's eye type.

1163.08 : Gauge Cocks:

- (1)
 - a. Subject to the provisions of the succeeding sub-paragraphs, each power boiler shall be equipped with three or more gauge cocks located within the range of the visible length of the water glass;
 - b. When the boiler is equipped with water gauge independently connected to the boiler and located not less than 70 cm. (28 in.) apart on the same horizontal line may not be provided with gauge cocks;
 - c. Gauge cocks shall be equipped with at least one (1) try-cock each; and
 - d. For boilers of the locomotive type not over 90 cm. (35 in.) diameter, and for boilers of the fire box and watering types with a heating surface not exceeding 5 sq. m. (53 sq. ft.) only two (2) gauge cocks shall be required.
- (2) Gauge cocks located above normal reaching distance from the floor or working level shall be provided with:
 - a. permanently attached rods with chains for operation from the floor, and
 - b. suitable means to prevent water or steam discharging on workers manipulating the rods or chains.

1163.09 : Fusible Plugs:

- (1) Fusible plugs, when used on power boilers, as additional low water alarms, shall be renewed at intervals not exceeding twelve (12) months. Casings which have been used shall not be refilled.
- (2) Fusible plugs, after inspection, should be replaced with the same or equivalent specifications of the original plug.
- (3) Fusible plugs shall not be used on power boilers operating at pressures exceeding 17.5 kg/cm²g (250 psig).
- (4) Steam actuated fusible plugs, when used in power boilers, shall be located that they can be operated when the water level is at a point where a fire actuated fusible plug is located.

1163.10 : Blow-Off Requirement:

- (1) Each power boiler, except once-through boilers with no fixed steam and water line, shall be equipped with at least one (1) blow-off pipe fitted with valve cock directly connected to the lowest water space, and the boiler shall be designed and installed that all water can be drained from it.
- (2) Each bottom blow-off pipe on a power boiler forming a part of a range of boilers having a common blow-off pipe, drain or pump, shall be fitted with:

- (a) two (2) slow opening valves, or
 - (b) one (1) slow opening valve, and one (1) quick opening valve or cock, or
 - (c) a valve operated by a key which can only be removed when the valve is closed.
The key shall be the only one available for the blow-off valves of the range of the boilers.
- (3) Valves for bottom blow-off pipes on power boilers shall be free from dams or pockets which may collect sediment and restrict the flow of water.
 - (4) When exposed to direct furnace heat, bottom blow-off pipes on power boilers shall be protected by fire bricks or other heat-resistant materials arranged that the pipes can be readily inspected.
 - (5) Blow-off pipings on power boilers shall discharge at a point where there is no danger of injury to workers, and shall not be connected to the sewer or the boiler, unless first passed through a blow-off tank.
 - (6) Blow-off tanks when used, shall be:
 - a. provided with a vent pipe of sufficient size to prevent the accumulation of pressure in the tank; and
 - b. located that all parts are accessible for inspection.

1163.11 : Feed Water Systems:

- (1) The discharge end of feed water pipes for boilers shall be:
 - a. located that the feed water at no time will discharge:
 - i. directly against surfaces exposed to direct radiation of the fires or to gases at high temperature, and
 - ii. close to any riveted joints of the furnace sheets or to the shell.
- (2) Feed pipes for power boilers shall be provided with a check valve near the boilers and a valve or stop cock between the check valve and the boiler.
- (3) When two or more power boilers are fed from a common source, the main feed pipe shall also be provided with a check valve between the water supply to prevent the water from backing out from one boiler to another.
- (4) Power boilers equipped with duplicated feed water arrangements shall conform to the requirements of 1163.09 on water supply source.
- (5) Where economizers or other feed water heating devices are connected directly to power boilers without intervening valves, the required feed and check valves shall be placed on the inlets of the economizers of water heaters.
- (6) Miniature boilers shall be provided with at least one (1) feed pump or other feeding device except on closed system boilers where a suitable connection or opening shall be provided to fill the boiler when cold or when the water main has sufficient pressure to feed the boiler at any time while under pressure.

1164 : Heating Boilers

1164.01: Working Pressure and Temperature:

- (1) The maximum allowable pressure of boilers used exclusively for low pressure steam heating shall not exceed 1.055 kg./cm²g (15 psig).

- (2) The maximum allowable working temperature at or near the outlets of hot water boilers shall not exceed 121°C (250°F).
- (3) Where the pressure on a low pressure steam boiler or the temperature of a hot water boiler exceeds any of those specified in the preceding paragraphs (1) and (2) the requirements of Rule 1163 shall BE USED.

1164.02: Access and Openings:

- (1) Steel plate low-pressure steam boiler shall be provided with suitable manhole or wash out openings to facilitate inspection, cleaning and maintenance. However, manhole openings may be omitted where the size or construction of the boiler is such that entrance is impracticable.
- (2) Manhole, handhole or washout openings in heads shall be provided, except boilers constructed where such openings are inaccessible or boilers of the locomotive or fire-box type when set in brick or boilers used exclusively for hot water heating and are not in compliance with the requirements of Rule 1163.03
- (3) Cast iron low pressure steam or hot water boiler shall be provided with suitable washout openings to permit the removal of sediments.
- (4) Access doors in steel-plate low pressure steam boiler settings shall not be less than 30 cm. x 40 cm. (12 in. x 16 in.).

1164.03 : Safety Valves:

Each low-pressure steam boiler shall be equipped with at least one (1) safety valve which shall:

- (1) Conform with the requirements of Rule 1163.03 (2) to (8) and
- (2) be sealed and adjusted to discharge at a pressure not exceeding 1.055 kg/cm²g (15 psig) with the seal attached so that the valve cannot be taken apart without breaking the seal.

1164.04 : Water Relief Valves:

- (1) Each hot water boiler shall be equipped with at least one (1) water relief valve placed on a vertical dead-end pipe attached to the cold water supply pipe close to the boiler or directly to the boiler and the discharge point free from any intervening valve or obstruction.
- (2) Water relief valves for hot water boilers shall be set to open at or below the maximum allowable working pressure.
- (3) Diaphragms, valves, seats or discs of rubber or of composition liable to fall due to deterioration when subjected to hot water or steam shall not be used on water relief valves for hot water boilers.
- (4) Water relief valves in hot water boiler shall be located where there is no danger of scalding persons.

1164.05 : Stop Valves:

- (1) Where a stop valve is used in the supply pipe connection of a single low pressure steam or hot water boiler, a stop valve shall also be provided in the return pipe connection.

1164.06 : Water Column Pipe:

Water column pipes on low pressure steam or hot water boilers shall conform to the requirements of Rule 1163.05 (1) to (6).

1164.07 : Steam Gauges:

Each low pressure steam boiler shall be equipped with steam pressure gauge, conforming with the requirements of Rule 1163.06. However, scales on dials of steam gauges for low pressure steam boiler shall be graduated to not less than 2kg./cm.²g (28.5 psig) and the face of the pressure gauge not less than 75 mm. (3 in.).

1164.08 : Pressure or Altitude Gauge:

- (1) Each hot water boiler shall be provided with a pressure or altitude gauge connected to the boiler in a manner that it cannot be shut-off from the boiler except by a cock placed on the pipe near the gauge and provided with a tee or level handle so fitted that it will be parallel to the pipe when the cock is open.
- (2) Scales on dials of pressure and altitude gauges on hot water boiler shall:
 - a. be graduated to not less than one and one-half (1¹/₂) times the maximum allowance pressure of the boiler; and
 - b. have the maximum permissible working pressure indicated in red.

1164.09 : Pressure Combustion Regulators:

When pressure combustion regulators are used on low pressure steam boilers, they shall operate to prevent the steam pressure from rising above 1kg./cm.²g (14.25 psig).

1164.10 : Thermometers:

Hot water boiler shall be equipped with a thermometer:

- a. properly located for easy reading when observing the water pressure; and
- b. sufficiently connected to indicate at all times the temperature of the water in the boiler.

1164.11 : Temperature Combustion Regulators:

Each low pressure steam boiler shall be equipped with one or more water gauge glasses.

- (1) With the lower fitting provided with a valve or pet cock to facilitate cleaning, or
- (2) Otherwise conforming to the requirements of Rule 1163.08 (1) and (2).

1164.12 : Installation of Pipes:

Hot water heating system shall be so installed that the fluid release column cannot be accidentally shut-off.

1164.13 : Blow-Off Equipment:

Each low-pressure steam or hot water boiler shall be equipped with a blow-off connection conforming with the provisions of Rule 1163. 10 (1) to (6).

1164.14 : Feed Piping:

- (1) Feed or make-up water shall not be discharged directly against any part of a low pressure steam boiler exposed to direct radiant heat.
- (2) Where feed or make-up water is introduced into hot water boilers from a steam or water pressure line, the line shall be connected to the piping system and not directly to the boiler.

- (3) Feed water shall not be introduced into low pressure steam or hot water boiler through the openings used for the water column gauge glasses or gauge cocks.

1164.15 : Automatic Fuel Cut-Off and Water Feeding Devices:

Each automatically fed steam or vapor system boiler shall be equipped with an automatic low-water cutoff or water-feeding device constructed and located that when the surface of the water falls to the lowest safe water line:

- a. the water inlet valve cannot feed water into the boiler through the float chamber; and
- b. the device will automatically:
 - i. cut-off the fuel supply; or
 - ii. supply requisite feed water; or
 - iii. simultaneously cut-off the fuels and feed water supply.

1165 : Cleaning and Repairs:

1165.01 :

Repairs and adjustments, such as tightening up flanged fittings, shall not be made on boilers and steam lines while under pressure.

1165.02 :

Before allowing workers to enter boilers for the purpose of making repairs, all blow-off, feed water, main steam stop and other valves shall be closed, locked and marked with tags or other devices to indicate that there are workers inside.

1165.03 :

Where the boiler to be cleaned or repaired is one of a battery of two or more boilers, and any of them is in service, the main steam valves shall be tightly closed and locked with the free flow drain open as required in 1163.04 (3).

1165.04:

Where blow-off valves of several boilers are connected to the same header, the valves of any boiler in service shall be marked and locked to prevent opening into the boiler being cleaned or repaired.

1165.05:

No worker shall enter a boiler for the purpose of cleaning or making repairs, unless another worker is stationed outside the manhole or other access opening ready to render assistance when needed.

1165.06:

Workers shall never enter a boiler until it is sufficiently cooled off to ambient temperature. When entering a boiler, precautions shall be taken against hot flue dust or falling loose parts and explosion caused by water thrown on hot flue dust.

1165.07:

Before any person enters a boiler, it shall be thoroughly ventilated by fans, blowers, or other means to expel any possible combustible or toxic gases or vapors, particularly when scales solvents have been used.

1165.08:

During cleaning and repairing of boilers, especially on humid days, ventilation should be provided by running forced drafts or induced drafts at a low speed to eliminate flue gases from other boilers entering the boiler under repair.

1165.09:

Lights used by workers in cleaning and repairing inside a boiler shall be in good condition suitable for the work.

1165.10:

Blowtorches shall never be used inside boilers.

1165.11:

The power source of steam or air driven tools used in cleaning or repairing boilers, shall be generated outside the boiler and all connections shall be inspected at frequent intervals.

1165.12:

Tubes and shells of boilers cleaned by mechanical tools shall not be operated in one spot for any considerable length of time as this will reduce the strength of the metal.

1165.13:

After cleaning operations on boilers:

- (1) One worker shall be detailed to examine the interior to see that no tools or other equipment are left inside the boilers, and
- (2) The boiler shall not be closed until it is absolutely certain that all workers are outside.

1165.14:

- (1) The amount of bulging on the boiler or fire box shall not exceed 2% of the area of the bulge. If the bulge exceeds 2%, the use of the boiler shall be discontinued or patch work shall be done in accordance with the provisions of Rule 1162.
- (2) All materials used in boiler repair shall be certified by the supplier as to quality and specification of the materials subject to verification by the Industrial Safety Engineer before repairs can be made.

1165.15:

Welding jobs performed on pressure parts of boilers and pressure vessels shall be undertaken by certified welders and in accordance with the procedural process of section ix (welding qualifications), ASME boiler and pressure vessel code.

1165.16:

Boilers and pressure vessels locally fabricated shall be stamped by the Department indicating the following:

- (1) Name of manufacturer and year built;
- (2) Application number;
- (3) Manufacturer's serial number;
- (4) Design pressure and temperature; and
- (5) Rating in horsepower for boiler and cubic meter for pressure vessel.

1166 : Personal Protective Equipment:

Workers in boiler rooms exposed to work hazards which cannot be otherwise eliminated, shall be provided with personal protective equipment conforming to Rule 1080.

1167 : Color Coding:

Feed water and steam pipes emanating to and from the boiler shall be marked with identifiable color in conformity with Rule 1230.

1168 : Requirements in the Preparation of Boiler and Pressure Vessel Plans:

Before a boiler or pressure vessel is installed, the owner/manager or his/her authorized representative shall file with the Bureau or in the Regional Office concerned (with available pme) an application for installation in quintuplet, accompanied by five (5) copies of each sheet of plans in white print. The following shall be incorporated in the plans:

- (1) Location Plan:
The plan showing the site of the compound indicating any known landmarks, such as streets, private or public place or building and an arrow indicating NORTH direction drawn not necessarily to scale.
- (2) Room Layout:
A layout of the workplace showing:
 - a. the detail of the room drawn to scale indicating the position of the boiler or pressure vessel in relation to the surrounding walls and other machinery or equipment in the room;
 - b. the type of material used for the room walls which may be of concrete, adobe, hollow blocks or other fire resistant construction.
- (3) Installation and Foundation Plans:
 - a. the front and side views of the boiler/pressure vessel including the details of its anchorage or setting to the concrete foundation;
 - b. the water column assembly, main steam line, below-off line, safety valve or valves, feed water appliances, pressure gauge connection, manhole or handhole, in the case of boilers;
 - c. the inlet and outlet pipes, drain pipe, inspection plug, manhole or handhole, glass gauge, relief or safety valves, and pressure gauge connection in case of pressure vessel;
 - d. the clearance of the lowest portion of the boiler shell to the floor line shall not be less than 45 cm. (17.80 in.) in case of horizontal fire tube boiler.
 - e. the type of furnace.
- (4) Foundation Design Computation:
 - a. the total weight of the boiler or pressure vessel and accessories;
 - b. the weight of water inside the boiler or pressure vessel when full;
 - c. the base area and volume of concrete foundation;
 - d. the concrete mixture;
 - e. the bearing capacity of the soil; and
 - f. the factor of safety of the foundation.

(5) Detailed Construction Drawing:

- a. the sectional front and side front elevation of the boiler or pressure vessel indicating the diameter, thickness and length of the shell or drum and the dimensions, measurements, and other technical data of all other boiler parts, fittings and accessories.
- b. the details of longitudinal and circumferential joints, head attachments to boiler shell, nozzle and manhole or hand hole attachments to shell.
- c. the boiler/pressure vessel manufacturer's data and specification;
- d. the technical details of the furnace.

(6) Sizes of Plans:

All sheets of plans to be submitted shall be of the following sizes:

375 mm x 530 mm - minimum

530 mm x 750 mm

750 mm x 1065 mm - maximum

(7) Title Block:

The size shall be 7.62 cm. in width while the total length of the lower part of the plan will be occupied by the title block to contain:

- a. Name in print, signature and seal of the professional mechanical engineer indicating his/her registration number, current/updated ptr number, place and date issued and tax identification number.
- b. Initials of the draftsman, date of plan prepared, sheet number and scale used. Minimum scale of 1:100 except for small and minut parts/details wher a convenient scale may be used to show clearly the parts/details.
- c. Title of Plan.
- d. Name, print and signature of the owner/manager of the establishment indicating his/her tax identification number.
- e. Name and address of establishment.

(8) Installation:

- a. Upon approval of the plan, installation shall be done under the supervision of a professional mechanical engineer. If minor deviations from the approved plans are done in the actual installations, the Bureau or the Regional Labor Office concerned shall be informed in writing or in person so that the necessary corrections can be noted. In cases where major alterations are done in the actual installation that may affect the original design, the necessary plans shall be resubmitted as a new application. The approved application and plans shall serve as a permit for installation.
- b. Upon completion of the installation, the establishment shall request the Regional Office for final inspection and if found to be in accordance with the approved plans and standards, a permit to operate the boiler or pressure vessel for a period of one (1) year shall be issued effective on the date of inspection.

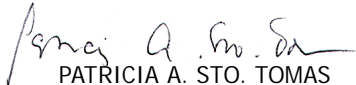
- c. The establishment shall inform the Regional Office or authorized representative thirty (30) days may be allowed by the Regional Labor Office or authorized representative.

Incases where the establishment cannot stop the operation of the boiler or pressure vessel due to unavoidable circumstances or business commitments, a grace period of thirty (30) days may be allowed by the Regional Labor Office or authorized representative.

Boiler tenders shall be licensed in accordance with the Mechanical Engineering Law, as amended.

Repair of pressure parts of boiler or pressure vessels shall only be done after the plans and specification of materials are approved by the Bureau; Regional Labor Office concerned or authorized representative.

Manila, Philippines, on 18 December 2001.


PATRICIA A. STO. TOMAS
Secretary

RULE 1170 UNFIRED PRESSURE VESSELS

1171 : Definitions:

- (1) "Unfired pressure vessels" shall mean any closed vessel other than a boiler constructed to hold steam, hot water, gas or air, ordinarily supplied from an external source or from the indirect application of heat. This definition shall not include portable cylinders for the storage of compressed gases.
- (2) "Steam heated pressure vessels" shall mean an airtight vessel or an open pan or kettle, which is steam jacketed or equipped with steam coil or steam supply piping and is used in such operations as cooking, distilling, drying, evaporating and hardening.
- (3) "Water pressure tank" " shall mean a pressure vessel used for heating water by means of live steam or steam coil, or for the storage of cold water to be dispersed by means of pressure.
- (4) "Air pressure tank" shall mean a pressure vessel used as primary and secondary tank in connection with ordinary compression cycles, and receiving its air supply direct from the compressor.
- (5) "Refrigeration tank" shall mean a pressure vessel used in refrigeration system, excluding the piping of such system.
- (6) "Working pressure" shall mean a gauge pressure or pressure above the atmospheric pressure in kg./cm²g (psig).

1172 : General Provisions:

Application of this provision is provided under Rule 1162. The term pressure vessel shall be used in lieu of boiler and the same is referred as "unfired pressure vessel" in the application and usage of this RULE.

1172.01 : Standard Requirement:

Application of this provision is provided under Rule 1162.01.

1172.02: Construction:

- (1) Pressure vessels construction procedural process, material, fittings and attachments shall be in accordance with the standards requirements provided under Rule 1162.01.
- (2) Pressure vessels shall be designed for their intended use and suitably to local condition.
- (3) Every pressure vessel shall be accompanied by a certificate issued by the Manufacturer showing the technical specifications to which the vessel has been constructed.
- (4) Application for permit for locally fabricated pressure vessels shall be filed with the Bureau or to the Regional Office (with available PME) accompanied by design and specification in five (5) copies (white print).

1172.03: Installation:

- (1) Pressure vessels shall be installed in a way that all parts are readily accessible for inspection.
- (2) Safety valves of pressure vessels where pressure is supplied from an outside source shall be connected to the vessels or system which are protected to prevent a rise in pressure beyond the allowable maximum.

- (3) Requirements in the preparation of pressure vessels installation plans including internal combustion engine and other mechanical equipment shall be as provided under Rule 1168.

1172.04 : Factor of Safety:

The permissible working pressure vessel shall be reduced to maintain a factor of safety of not less than five (5) or such other factor as may have been specified/fixed in the specification when an inspection of the pressure vessel shows signs of deterioration unless suitable repairs are done. It shall be reduced or de-rated in accordance to the provisions of its design code based on the remaining thickness as determined by conducting thickness-gauging measurement.

1172.05 : Access and Inspection Openings:

- (1) Except for those types of pressure vessels where such inspection openings are impracticable, pressure vessels shall be provided with:
 - a. suitable manhole, hand hole or other openings for inspection, examination and cleaning or
 - b. removable heads or cover plates of a size not less than the required area of the openings and located to provide adequate view of its interior.
- (2) Provisions for manhole and handholes shall be as provided and specified under ASME requirement based on vessel diameter.
- (3) Handhole openings in pressure vessels shall be not less than 70 mm. (2 ³/₄ in.) in size.

1172.06 : Safety Appliances:

Pressure vessels shall be protected by such safety and relief valves, indicating and controlling devices to ensure their safe operation. The appliances shall be constructed, located and installed to avoid any mechanical damage.

1172.07 : Safety Valves:

- (1) Safety valves in pressure vessels shall have mechanical lifting devices to lift the valve disc from its seat when testing. The safety valve shall be set within plus or minus ten percent (10%) of its designed pressure.
- (2) Safety valves of pressure vessels where pressure is supplied from an outside source shall be connected to the vessels or systems which are protected to prevent a rise in pressure beyond the allowable maximum.
- (3) Pressure vessels in which pressure is generated, shall be provided with safety valves and connected:
 - a. directly to the vessel or
 - b. if the contents of the vessels are likely to clog or cause interference with the operation, safety valves may be connected to the pipe lines leading to the vessels.
- (4) Safety valves having either the seat or the disc of cast iron shall not be used in pressure vessels.
- (5) The discharge capacity of safety valves on pressure vessels shall be sufficient for the size of the supply pipes and the pressure at which the vessels are operated.
- (6) Outlets of safety valves on pressure vessels shall be located or piped to avoid hazards to persons.
- (7) When two or more safety valves are fitted on a pressure vessel, all except one of the valves shall be set to blow at a pressure slightly above but not more than ten percent (10%) of the maximum permissible working pressure.

(8) When two or more safety valves are fitted on a pressure vessel, all except one of the valves shall be set to blow at a pressure slightly above but not more than ten percent (10%) of the maximum permissible working pressure.

(9) Safety valves on pressure vessels shall be provided with continuous drain.

1172.08 : Rupture Discs:

(1) Safety rupture discs, shall be made of suitable materials which are:

- a. uniform in thickness;
- b. capable of withstanding any chemical action; and
- c. durable enough to withstand the least possible change.

(2) Where safety rupture discs are used for additional protection of pressure vessels, they shall be designed to fail at a pressure above the safety valve setting.

1172.09 : Identification of Control Valves:

Where a battery of pressure vessels is operated, control valves shall be plainly marked by numbering or by the use of a distinctive color system. If the valve is located on the vessel, each vessel shall carry a mark corresponding to that on its valve.

1172.10 : Indicating and Recording Devices:

Indicating and recording devices on pressure vessels shall be protected against breakage or clogging and clearly legible to the operators.

1172.11 : Inspection:

Inspection proceedings for Pressure Vessels shall be the same as provided under Rule 1162.02.

1173 : Liquefied Petroleum Gas (LPG) Vessels and other Cylinders:

(1) Vessels containing or are used as containers for liquefied petroleum gas (LPG), chemicals, catalyst and other corrosive gases shall be subjected to internal and/or external inspection, including hydrostatic tests equal to 1.2 times the maximum working pressure at intervals not exceeding two (2) years in the case of cylinders for corrosive gases and five (5) years for other gas cylinders. However, internal inspection shall be conducted on such a vessel at any time within this period if in the opinion of the competent authority, said inspection is deemed necessary due to known or inspected defects.

(2) The result of the internal and/or external conduct of inspection on all pressure vessel parts and appliances, may upon the discretionary power/privilege of the inspection authority, decide whether or not to subject the pressure vessel to a hydrostatic test.

(3) In lieu of hydrostatic test, radiographic, ultrasonic thickness gauging, magnetic particle, liquid penetrant and/or other equivalent non-destructive test shall be performed on such vessel.

1173.01 : Cylinder Records:

Every cylinder owner/user or person responsible for the maintenance of the cylinder shall keep a cylinder maintenance logbook/register which shall show the corresponding dates of all tests, internal and/or external inspection, cleaning and repairs undertaken. Such logbook/register shall be made available upon request by the inspection authority.

1173.02 : Fittings:

- (1) Every cylinder shall be provided with a device that prevents damage to the bottom of the gas cylinder.
- (2) Only materials resistant to the contents of the cylinder shall be used for parts of valves and fittings.
- (3) Copper and alloy containing copper shall not be used for parts or fittings on cylinders for liquefied ammonia dissolve under pressure.
- (4) All fittings of cylinders for oxygen and other oxidizing gases shall be kept free from grease.
- (5) For all flammable gases, the connection screw shall always be right handed except for LPG cylinders.

1173.03 : Markings and Identifications:

- (1) Cylinders shall be legibly marked for the purpose of identifying the content inside with:
 - a. chemical symbols - to be stamped on the metal at the shoulder of the cylinder; and
 - b. chemical name and trade name - to be stenciled, labeled or stamped and shall not be easily removed.
- (2) All markings shall be located on or near the shoulder of the cylinder.
- (3) Metal stampings shall have a minimum height of 0.31 cm ($\frac{1}{8}$ in.).
- (4) The height of lettering by printing, stenciling, labeling and paint or ink stamping shall not be less than one over twenty five ($\frac{1}{25}$) of the diameter of the cylinder with a minimum height of 0.62 cm. ($\frac{1}{4}$ in.).

1173.04 : Handling and Storage:

- (1) Cylinders shall be adequately protected against excessive variations of temperature, direct rays of the sun and continuous dampness.
- (2) Storage of charged cylinders inside factory buildings shall be:
 - a. limited to such number as to be reasonably safe for the workers therein:
 - b. suitably placed and secured against their falling and rolling.
- (3) Storage rooms containing charged cylinders should be appropriately marked on the outside with clearly visible danger signs.
- (4) Cylinders shall be segregated for storage by type of gas and empty cylinders shall be stored apart from charged cylinders.
- (5) Cylinders shall not be placed:
 - a. in or near gangways, stairways, elevator installations or other places where moving objects may strike or fall against them.
 - b. close to highly flammable substances; and
 - c. adjacent to air intake;
 - d. basement or cellar

(6) Storerooms shall:

- a. be provided with adequate ventilation facilities to the outside air; and
- b. have an adequate number of exits having regard to the quantity and nature of the gas stored.

(7) Smoking in cylinder rooms is prohibited.

1173.05 : Transport:

- (1) Cylinders shall be transported in a way that no part of the cylinders shall project beyond the sides or ends of the vehicle.
- (2) Adequate precaution shall be taken to prevent rough handling, excessive shocks or local stress.
- (3) No cylinder shall be moved by a lifting magnet.
- (4) When cylinders are moved by a hoisting mechanism, a properly designed cradle with suitable slings shall be used.

1174 : Steam Heated Pressure Vessels:

1174.01 :

Where steam heated pressure vessel is operated at a pressure less than that of the main steam supply line, an effective reducing valve shall be properly secured against any manipulations by an unauthorized person.

1174.02 :

Reducing valves and safety valves on steam lines for pressure vessels shall be tested occasionally. Steam supply pipes for steam heated pressure vessels shall be placed in floor trenches, where practicable, or covered with insulating materials within 2 m. from the floor or working level to prevent excessive increase of temperature in the atmosphere of the workroom.

1175 : Closed Steam Heated Pressure Vessels:

1175.01 : Interlocks:

- (1) Closed steam heated pressure vessels equipped with bayonet-joint covers shall be provided with interlocks or other effective means for preventing:
 - a. the rise of pressure inside the vessel before the cover is in fully locked position; and
 - b. the release of the cover from the locked position before the pressure inside the vessel has been reduced to atmospheric pressure.

1175.02 : Steam Agitation:

Where the contents of the closed vertical pressure vessels are stirred by means of a live steam, the vessel shall be provided with heavy coiled springs or other suitable shock absorbers under their supports.

1175.03 : Revolving Closed Vessels:

- (1) Pressure gauges and safety valves on revolving cylindrical steam heated pressure vessels, such as revolving autoclaves, devulcanizers and rotary driers, shall be located on the lines at the trunnions thru which steam is admitted into the vessels.

- (2) Driving mechanisms of revolving steam heated pressure vessels shall be provided with:
 - a. appropriate locking device; and
 - b. safeguards in accordance with the requirements of Rule 1200.

1175.04 : Autoclaves:

- (1) Autoclaves shall be provided with casings that shall:
 - a. prevent the contents from being forced out directly in the working spaces, and
 - b. extend down to the floor to prevent any person from walking under the vessel.
- (2) Autoclaves containing liquids shall be installed over pits or in casings of light steel or other suitable materials, tight at the bottom and capable of holding the charge or draining to a suitable receiver.
- (3) All electrical equipment in rooms where autoclaves containing flammable substances are installed shall be:
 - a. effectively grounded; and
 - b. of approved explosion- proof type.
- (4) Linings of autoclaves shall be examined, frequently for leaks and shall be renewed before the shells are damaged.
- (5) The heating of oil for oil-jacketed autoclaves shall be performed at points remote from the vessels.

1175.05 : Digesters:

- (1) Digesters used for the cooking of wood chips shall be equipped with piping of corrosion resistant materials and of adequate thickness, particularly between the blow-off and blow-pits.
- (2) Blow-off valves on digesters shall be so arranged that they can be operated from a location outside the digester room or from protected point remote from the valves.
- (3) Openings of blow-pits shall be so constructed as small as possible with raised sides or guarded by standard railings of not less than 1.25 m. (48 in.) in height.
- (4) Openings of blow-pits shall be preferably on the sides of the pits.
- (5) Ladders for access to blow-pits shall be constructed that the doors of the blow-pits cannot be closed when the ladders are in place.
- (6) An effective warning system consisting of bells, whistles or other signaling devices, shall be installed in digesters and blow-pits rooms, to be sounded or operated before and while digesters are being blown.
- (7) Before opening blow-off valves to discharge the contents, the following procedures shall be observed:
 - a. the blow-pit shall be free from stock and water;
 - b. precautions shall be taken to ensure that all workers are out of the blow-pit;
 - c. the door of the blow-pit shall be securely fastened; and
 - d. workers in the digesters and blow-pit rooms shall be warned by signals that the blow-off valve is to be opened.

- (8) Blow-off valves on digesters shall be opened slowly.
- (9) Head covers on digesters shall not be loosened while any pressure is indicated on the steam gauge.
- (10) Persons not directly concerned shall not be permitted in digester buildings while digesters are being blown.
- (11) Each floor of digester buildings shall be provided with not less than two (2) unobstructed means of egress.

1175.06 : Distilling Apparatus:

- (1) Stills shall be equipped with duplicate pressure gauges, safety valves and recording thermometers or pyrometers.
- (2) Charging vapor and steam lines on stills shall be:
 - a. fitted with dual valves, with a bleeder between them, and
 - b. provided with arrangements for disconnecting and blanking the lines.
- (3) Convenient and safe access for quick manipulation of overhead valves on stills shall be provided.
- (4) Where horizontal shell stills are mounted at varying heights to allow gravity flow, the manhole ladders shall be of different lengths to fit the front manhole of each still at the proper angle.
- (5) When preparing apparatus used in distilling flammable, corrosive or toxic fluids for cleaning or repairs, the following procedure shall be observed:
 - a. steam inlet valves shall be locked in close position;
 - b. all charging fluid shall be pumped out;
 - c. all inlet lines shall be disconnected and blanked or the inlet valves shall be locked in position; and
 - d. the stills shall be blown through with live steam admitted through a top connection.
- (6) When stills are to be charged with cold liquids, they shall first be filled with steam until all the air has been expelled and steam shows at the safety and vacuum relief valves.
- (7) When stills are charged with hot liquids, they shall be steamed progressively from the stills through the tower and condensing equipment to a try cock on the gas line.

1175.07 : Kiers:

Where hot liquids, such as solutions of caustic soda, lime or sulphuric acid are used in circulating kiers coiling out textile materials or in similar closed pressure vessels, the liquids:

- a. shall be prepared in separate vessel or tanks, and
- b. shall not be admitted to the pressure vessels until loading of the materials to be processed has been completed.

1175.08 : Vulcanizers and Devulcanizers:

- (1) Vulcanizers and devulcanizers door fastenings shall be of ample strength, properly spaced and carefully secured.

- (2) Vulcanizers and devulcanizers shall be installed above the floors high enough to permit piping valves and traps on the same floors as the vessels. This requirement shall not apply where it is necessary to install bottoms of horizontal vulcanizers below floor levels in order to place the car tracts on the vulcanizers on the same level as the floor tracks.
- (3) Periodic and through internal and external inspections shall be made of vulcanizers including all attachments and connecting equipment, at intervals not exceeding three (3) months.
- (4) Before allowing workers to enter vulcanizers or devulcanizers for the purpose of releasing jammed or derailed vulcanizer cars or for any other necessary operation, the following shall be observed:
 - a. steam valves and other supply valves shall be locked in closed position;
 - b. the blow-down valves on the individual vessel and on any other vessel using the same drain shall be locked in closed position;
 - c. the vessels shall be free of hazardous fumes or vapor; and
 - d. the vessels shall be cooled sufficiently to prevent workers from being burned or over exposed to heat.
- (5) Safety valves for vulcanizers and open-steam type devulcanizers shall be attached directly to the shells of the vessels.
- (6) Vulcanizers and open-steam type devulcanizers equipped with bolted doors shall be provided with hinged type door belts securely attached to lugs on the shell rings.
- (7) Before any attempt is made to open the doors of vulcanizers or open-steam type devulcanizers, the following shall be observed:
 - a. the steam supply valves shall be closed;
 - b. the blow-down and telltale valves shall be opened until the telltale valve indicates that all internal pressure has been relieved; and
 - c. the drain valves shall be opened.
- (8) Vulcanizers and open-steam type devulcanizers shall be equipped with individual blow down piping and the use of common blow down is prohibited.
- (9) Horizontal vulcanizers and open type devulcanizers shall be equipped with:
 - a. a drain valve at the bottom near the front of the vessel for draining condensed or cooling water from the vessels and to avoid scalding of workers when the doors are opened, and
 - b. an additional drain valve near the center, when the vessel is more than 0.75 m. (2. 5 ft.) in length.
- (10) Vertical vulcanizers and devulcanizers shall be provided with suitable platforms equipped with standard railings and toeboards and arranged to make all working areas accessible.

1175.09 : Vulcanizers:

- (1) Doors on vulcanizers shall be of quick opening type, with fastening and locking arrangements in full sight of the operators.
- (2) Quick opening vulcanizers doors shall be equipped with automatic interlocks that will prevent doors from being opened until all pressure has been relieved.

- (3) Power-operated vulcanizer doors running in vertical guides shall be equipped with automatic latches in the guides to prevent the doors from falling in the event of failure of the hoisting mechanism.
- (4) Vulcanizers shall be equipped with telltale valves, preferably located on the vulcanizer doors, for reducing the pressure inside to atmospheric level before the doors can be opened.
- (5) Where bottoms of horizontal vulcanizers extend below the floor levels, the pits shall be guarded at the sides by standard railings and toeboards, and at the ends by removable rails or by chain carrying warning signs.
- (6) Where vulcanizers cars are used, car stops shall be provided in the rear part of the vulcanizer to prevent the cars from striking workers when rolled in.
- (7) Plates over spiders on top of hydraulic rams on vertical type vulcanizers shall be perforated and provided with center holes large enough to prevent the accumulation of steam within the rams and the blowing out of the moulds or plates upon removal of the covers.
- (8) Vertical type vulcanizers shall be provided with overflow pipes of the water operating the hydraulic rams, with a capacity not less than that of the water inlet pipes, inserted through the cylinder wall at the limit of travel necessary for the ram.

1175.10 : Alkali Devulcanizers:

- (1) Where safety valves on alkali devulcanizers may be clogged by rubber or other foreign materials from the contents of the vessels, safety rupture discs should be substituted.
- (2) Alkali devulcanizers shall be provided with baffles directly on the inner shells at the entrance to the safety valves, steam gauges, and blow-down lines.
- (3) Workers exposed to splashes from caustic liquids used in alkali devulcanizers shall be provided with suitable personal protective equipment conforming to the requirement of Rule 1080.
- (4) Discharge pipes and closed dump tanks for stationary alkali devulcanizers shall be designed to withstand devulcanizers' pressure in the event the lines are opened under high pressure.
- (5) Revolving spherical alkali devulcanizers shall be provided with:
 - a. individual motor drives or effective means of locking the driver to prevent the possibility of accidental starting;
 - b. remote power controls, beyond the reach of persons standing in front of the manhole; and
 - c. automatic interlocking devices which will prevent starting the driving mechanism until the manhole covers are closed and locked except when the operators keep their hands on the power controls.

1176 : Open Steam Heated Pressure Vessels:

1176.01 : General Provisions:

- (1) Where the top edges of large open steam pressure vessels are less than 1.20 m. (4 ft.) above the floor or working level, the vessels shall be surrounded by standard railings to the floor, so that workers can watch the operations, without the possibility of falling into the vessels or being burned by splashing materials.
- (2) Batteries of open kiers or similar open steam heated pressure vessels shall be arranged that:
 - a. the distance between the edges of the vessels is at least 45 cm. (18 in.); and

- b. there is unobstructed space for passage around each vessel of at least 45 cm. (18 in).
- (3) Planks, ladders, stairs and other gangways placed over open steam heated pressure vessels containing hot liquid or hot water shall be securely fastened and provided with standard railings and toeboards preferably fitted with fillers.
- (4) Sitting or standing on the edges of open steam heated pressure vessels or on guards surrounding such vessels is prohibited.
- (5) Where open steam heated pressure vessels give rise to excessive water vapor, adequate steps shall be taken to reduce the relative humidity of the workroom.

1176.02 : Open Jacketed Kettles:

- (1) Jackets of steam jacketed cooking or tenderizing kettle shall be thoroughly drained before the steam supply valves are open.
- (2) When admitting steam to cold steam jacketed kettles, the steam supply valves shall be opened slowly.
- (3) Wooden scrapers should be provided and used for removing semi-solid or sticky finished products from steam jacketed pivoted kettles or kettles with side discharged doors.
- (4) Open steam jacketed starch kettles used in textile industry shall be provided with covers arranged that the process can be observed, and with large overflow rings with ample drains.
- (5) Workers around open steam jacketed kettles shall be provided with, and used suitable protective clothing conforming to Rule 1080.
- (6) Before cleaning or making repairs inside open steam jacketed kettles, all;
 - a. agitating devices shall be locked or blocked to be inoperative;
 - b. valves or drains connected on common heads shall be closed or blocked; and
 - c. pipings for introducing steam or other dangerous substances shall be disconnected and blanked or their inlet valves shall be locked in the closed position.

1176.03 : Open Evaporating Pans:

- (1) Open evaporating pans for substances which are flammable when dry, shall be kept free of impurities and the steam coils always covered by liquids when operated.
- (2) Steam coils in open evaporator pans shall prevent the creation of a vacuum through steam condensation drawing the material processed into the coils, which, may cause explosion.

1177 : Water and Air Pressure Tanks:

1177.01 : General Provisions:

The water supplied to water pressure tanks shall be free from suspended solids and sedimentary matters.

1177.02 : Hot Water Pressure Tanks:

- (1) Hot water pressure tanks shall be designed to withstand full boiler pressure.
- (2) Every hot water pressure tank not designed to withstand full boiler pressure shall be equipped with:

- a. a reducing valve located between the steam stop valve and the tank; and
 - b. one or more relief or safety valves on the low pressure side of the reducing valve.
- (3) Every hot pressure tank should be equipped with automatic temperature regulator set to prevent the generation of steam.
 - (4) Pressure gauges for hot water pressure tanks shall be installed between the reducing valves and the relief safety valves.
 - (5) Steam and hot water piping for hot water pressure tanks shall be adequately insulated where it is exposed to contact.
 - (6) Hot water tanks shall be examined frequently for leaks of steam or water, which shall include hydrostatic tests when deemed necessary by the Safety Engineer of the Regional Labor Office or authorized representative.

1177.03 : Cold Water Pressure Tanks:

- (1) Pressure gauges for cold-water pressure tanks for sprinkler system shall be provided with separate shut-off valves with arrangements for draining.
- (2) Discharge valves on cold water pressure tanks for sprinkler system shall be locked or sealed in the open position and shall be inspected frequently to make sure that they are open.
- (3) Cold water pressure system shall be provided with one or more pressure relief valves adjusted to release over the maximum air pressure of the system.

1177.04 : Air Receivers:

- (1) Air receivers shall be:
 - a. protected from the weather; and
 - b. accessible for external and internal inspection.
- (2) Air receivers shall be provided with suitable openings for inspection and cleaning.
- (3) Where two or more receivers are served by one compressor, the air supply piping for each tank shall be equipped with a stop valve and with a safety valve between the stop valve and the compressor.
- (4) Safety valves for air receiver shall be proportional to the maximum quantity of free air that can be supplied.
- (5) Stop valves shall be installed between air receivers and each consuming appliance at points convenient to the operator.
- (6) Pipe lines of compressed air systems shall be:
 - a. securely fastened in place; and
 - b. installed not to interfere with free contraction or expansion of the pipings between fixed points.
- (7) Air receivers shall be equipped at the lowest point possible with automatic drain traps or with valves which shall be opened daily, for relieving the vessels of air, moisture and oil accumulated at the bottoms.
- (8) Air receivers shall be kept clean of oil, carbon and other foreign substances.

- (9) Compressed air shall not be handled or used by any person except in the performance of his duties. In no case shall a jet of compressed air be directed against any person.
- (10) No vessel shall be used as an air receiver unless it meets the requirements of Rule 1171.01.
- (11) Compressed air shall not be used to force liquid or substance out of containers which are not constructed to withstand the pressure of the air supplied.

1178 : Refrigeration Tanks:

1178.01 : Refrigeration Rooms:

- (1) Factory rooms in which refrigeration tanks and other parts of refrigeration systems are permanently installed and operated shall:
 - a. be provided with tight-fitting doors;
 - b. have no partitions or openings that will permit the passage of refrigerants to other parts of buildings; and
 - c. be provided with mechanical means of ventilation.

1178.02 :

Not more than two (2) refrigeration tanks shall be located one above the other within the same area between floor and ceiling.

1178.03 : Open Flames:

All electrical equipment shall be of the approved explosion proof type. No flame producing devices or hot surfaces shall be permitted in rooms where refrigeration tanks are installed.

1178.04 : Materials:

All materials used in the construction and installation of refrigeration tanks shall be capable of withstanding the chemical action.

1178.05 : Gauge Glasses:

Liquid level gauge glasses for refrigeration tanks, except the bull's eye type, shall be fitted with automatic shut-off valves.

1178.06 : Stop Valves:

Refrigeration tanks shall be equipped with stop valves at each inlet and outlet pipes.

1178.07 : Pressure Relief Device:

- (1) Refrigeration tanks shut off by valves from other parts of the refrigerating system, shall be equipped with:
 - a. at least two(2) pressure relief valves or one pressure relief valve in parallel with a rupture member when the capacity of the tank exceeds 140 liters (5 cu. ft.) and its diameter exceeds 15 cm. (6 in.) and
 - b. a pressure relief device or a fusible plug, when the capacity of the tank is 140 liters (5 cu. ft.) or less.
- (2) Pressure relief devices for refrigeration tanks shall be connected directly to the vessels and shall be placed above the liquid refrigerant level.

- (3) Pressure relief valves and fusible plugs for refrigeration tanks shall be provided with discharge pipes, leading directly and separately to the outside of the building, with outside outlets located to protect persons from exposure to any irritating or toxic fumes or vapors.
- (4) Pressure relief valves and fusible plugs for refrigeration tanks containing ammonia or sulphur dioxide shall discharge into substantial tanks of the closed type or provided with hinged covers, used for no other purpose than the absorption of the refrigerants.

1179 : Compressor:

1179.01 : Installation:

All compressors shall be installed on firm foundations and securely fastened in place.

1179.02 : Machine Guarding:

All moving parts of air compressors shall be safeguarded in accordance with the provisions of Rule 1200.

1179.03 : Pressure Limiting Device:

- (1) Air compressors shall be equipped with:
 - a. automatic mechanisms which will stop the air compressing operation when the maximum allowable pressure is reached; and
 - b. electrically operated pressure limiting devices on air compressors shall be designed and constructed that the electric contacts cannot lock or fuse in a position which will cause the compressors to continue its air-compressing operations.

1179.04 : Speed Governors:

Unloaded air compressor or governor controls of engines shall be inspected frequently and regularly and maintained in good working conditions.

1179.05 : Lubrication:

Air compressor cylinder shall be lubricated with just sufficient oil to avoid excess oil from flowing into the intercoolers, receivers and other parts of the system.

1179.06 : Cooling:

- (1) Where air compressors cylinders are equipped with water cooling jackets, a visible indication of water flow shall be provided.
- (2) Intercoolers and after-coolers shall be designed and constructed to withstand safely the maximum pressure in their discharge piping.

1179.07 : Air Intake and Discharge Piping:

- (1) Air intakes for air compressors shall be located at a place where the air is pure, clean and free from any flammable or toxic gases or fumes.
- (2) Air discharge piping from air compressors operating at high temperature shall be provided with insulating covers.
- (3) If necessary, separator shall be installed at a convenient point between the compressor and the receiver.

1179.08 : Valves:

- (1) Where stop valves are installed in air discharge piping from air compressor:
 - a. the valves shall be easily accessible for inspection and cleaning; and
 - b. one or more safety valves shall be installed between the compressor and stop valve.
- (2) Steam or gas supply lines to steam driven or gas driven air compressor shall be provided with a manually operated throttle valve in a readily accessible location.
- (3) Compressor valves shall be inspected frequently and regularly and leaking valve shall be immediately repaired or replaced.

Manila, Philippines on 18 December 2001.


PATRICIA A. STO. TOMAS
Secretary

RULE 1180

INTERNAL COMBUSTION ENGINE

1181 : Definitions:

- (1) "Internal Combustion Engine" can be a two or four stroke cycle piston engine wherein heat energy is developed by burning then fuel mixture (gas, diesel, oil, etc.) inside the combustion chamber which in turn produces mechanical energy in the form of reciprocating and rotating forces of expanding gases during combustion to drive a piston, shaft or propeller. Diesel engine is the principal internal combustion engine for stationary power plant.
- (2) "Horsepower" (hp) is the amount of energy or work required to raise, create or force a weight of 33,000 pounds to a height or distance of one-foot in one-minute time; a standard unit of power equivalent to 746 watts or 746 joules/second.

1181.01 : Application/Coverage:

The Rule on internal combustion engine shall cover or apply to the following:

1. Portable/mobile generating units which maybe moved from site to site where elctrical power is required.
2. Standby units, normally idle, which can be activated when there is a failure of central station power where an interruption would mean a financial loss or danger to life and property (such as in tunnel lighting, operating rooms, key industrial processes, etc.)
3. Engine driven generator units installed in power plants where they are the normal primary source of electrical power generated for industrial and general utilities services.
4. Prime movers for industrial manufacturing processes and services.
5. All internal combustion engines used in construction and agricultural services and other similar applications, except those engines used in transportation such as automobile, aircraft engine, gas or liquid compressor engine, marine or ship motor engines.

1181.02 : Standard Requirement:

As a minimum requirement for purposes of installation, plan checking, inspection and other considerations prior to the clearance of any installation and use of internal combustion engine, Chapter 2 of the Philippine Society of Mechanical Engineering (PSME) Code and Rule 1060 of the Occupational Safety and Health Standards shall be applied.

1182.02: Inspection:

1. The Regional Labor Office through its duly authorized representative shall consuct inspection of internal combustion engine accompanied by the representative of the owner/or the supervising plant mechanical engineer for operation and maintenance and those who installed the internal combustion engine on the following phases of work:
 - a. During the construction phase of the foundation and/or installation of the internal combustion engine;
 - b. Before being placed into service after installation;
 - c. Before being placed into service after modification; and
 - d. Periodically at intervals not exceeding 12 months.

2. Upon receipt of Notice of Annual Inspection, the owner or user shall order the responsible plant mechanical engineer for operation and maintenance to prepare the internal combustion engine and its surrounding facilities for the inspection.
3. While the internal combustion engine is running, the following shall be noted:
 - a. crack on base foundation;
 - b. noise level;
 - c. excessive vibration;
 - d. exhaust gas emission level;
 - e. heat level; and
 - f. ventilation system.

1183 : Internal Combustion Engine Room/Building:

1. All buildings, permanently or temporarily used, shall be structurally safe and sound to prevent their collapse.
2. Roof shall be of sufficient strength to withstand normal design load, typhoon and strong winds in addition to carrying suspended loads.
3. Floors over which any person is likely to walk shall be sufficiently even to afford safe walking.
4. Floors shall be free from holes and splinters, improperly fitted gutters or conduits, protruding nails and bolts, projecting valves or pipes or other obstructions which create stumbling hazards.
5. Floors shall not be slippery under any condition.
6. Engine room shall be at a minimum of 3.0 meters in height or as specified by the manufacturers.
7. Adequate spaces shall be provided between engine or equipment to allow normal operation, maintenance and repair. Clearance around the engine to the engine room wall or any equipment shall be at a minimum of 1.0 meter. Engine room shall have two independent doors for easy access.
8. Engine room/building shall be suitably or adequately lighted for the operation and other type of work performed.
9. Normal atmospheric conditions shall be maintained in the engine room by natural or artificial ventilation to avoid insufficient air supply, stagnancy of air, excessive heat, toxic gases, excessive dryness and other objectionable odors.
10. Engines with "weatherproof" housings which are installed outdoors or on roofs of structures shall be located at a minimum of 1.5 m from openings in walls and at least 1.0 m from structures having combustible adjacent walls.
11. Engines rated at more than 50 hp shall be located in accordance with no. 10 or shall be installed in dtached structures reserved exclusively for the purpose with equipment and processes having similar hazard, or in rooms within or attached to other structures.
12. Detached structures shall be of noncombustible or fire-resistive construction. Provision shall be made for venting a fuel explosion with minimum structural damage. Ventilation adequate to prevent a hazardous accumulation of flammable vapors or gases shall be provided both when the engine is operating or shut down.

13. Rooms located within structures shall have interior walls, floors and ceilings of at least one hour fire resistance rating. (The ceiling of such a room located on the top floor of a structure need not be fire-resistive but shall be non-combustible or protected with automatic sprinklers).
 - a. These rooms shall have provision for venting a fuel explosion with minimum structural damage; or ventilation adequate to prevent a hazardous accumulation of flammable vapors or gases shall be provided both when the engine is operating or shut down.
 - b. Openings in the engine room that open into other sections of the structure shall be provided with automatic or self closing fire doors or dampers to confine a fire to the engine room.
14. Rooms attached to structures shall comply with no. 12 except that the common wall shall have a fire resistance rating of at least one hour. Openings in the engine room shall preferably be in outside walls, but if they open into other sections of the structure, they shall be provided with automatic or self-closing fire doors or dampers.
15. In areas where flammable gases or liquids, combustible dusts or flying normally exists, engines not compressing a flammable gas or not pumping a flammable liquid shall be installed in an enclosure of fire-resistive construction, with outside access only and well ventilated from a non-hazardous outside area.
16. Gasoline or liquefied petroleum gas fueled engines shall not be installed in rooms or locations containing fired equipment or open flames.
17. Appropriate fire protection equipment shall be provided for the engine and location. e.g. fire extinguishers, fire hoses and pumps.
18. Appropriate exhaust silencer shall be provided to minimize or maintain noise level.
19. All exhaust from internal combustion engine shall be directed outside to a safe area in accordance with the requirements of the Department of Natural Resources (DENR).
20. Safety signages shall be posted on prominent position at strategic location and, as far as practicable, be in the language understandable to all the workers.

1183.01 : Internal Combustion Engine Foundation Requirements:

1. Foundations shall be of sufficient strength, structurally designed to sustain safely the loads for which they are designed. Under no condition shall they be overloaded.
2. Floor slabs or building footings shall be isolated from foundation base by at least 25 mm. around its perimeter to eliminate transmission of vibration. Opening shall be filled with watertight insulation.
3. Foundation shall be concrete, at least class A mixture of 1 part cement, 2 parts sand and 4 parts broken stone or gravel (50 mm. max.) or at least 211.36 kg/cm² (3000 psi).
4. Foundation shall be poured monolithically, with no interruption, for spading and ramming purposes.
5. Engine should be placed on the foundation only after seven days have elapsed from pouring of base and should be operated only after 20 days have elapsed from placement or as per specifications of the manufacturer/installer.
6. Additional vertical and horizontal steel bars shall be placed on concrete foundations as reinforcement to avoid thermal cracking.

7. Specified size of foundation bolts shall be used and surrounded by a pipe sleeve.
8. Minimum foundation bolts shall be at least 12 mm. in diameter.
9. The weight of the engine plus the weight of concrete foundation shall be distributed over a sufficient soil base area large enough to cause a bearing stress within the safe bearing capacity of the soil with a factor of safety of five (5), as minimum.

1183.02 : Machine Guarding:

All moving parts of the engines, transmission equipment and all dangerous parts of driven machinery shall be effectively guarded in accordance with the provisions of Rule 1200 of the Occupational Safety and Health Standards.

Hot surfaces shall be provided with insulation or guarding.

1183.03: Personal Protective Equipment:

On-duty personnel for engines requiring regular attendants shall be provided with personal protective equipment appropriate for the hazard present.

1184 : Requirements in the Preparation of Internal Combustion Engine Installation Plan:

Before an internal combustion engine (diesel, gasoline, gas or oil, etc.) is installed, the owner/ manager or his authorized representative shall file with the Regional Labor Office concerned a application for internal combustion engine installation, accompanied by each sheet of plans in blue or white print, all in five (5) copies.

The following shall be incorporated in the plans.

1. Vicinity and Location Plans:

Site of the establishment indicating any known landmarks, such as street, private or public place or building and an arrow indicating NORTH direction drawn not necessarily to scale.

2. Room Layout:

- a. The detail room drawn to scale indicating the position of the engine to the surrounding walls or any machinery/equipment in the room. There shall be at least two independent doors.
- b. The type of materials used for the room walls, may either be concrete, adobe, hollow blocks or other type of fire-resistive wall and noise-proof walling.

3. Installation and Foundation Plans:

- a. The front and side views of the engine installation with the foundation. This shall include the detail of anchorage or setting of the engine to the concrete foundation. The dimensions of the concrete foundation shall also be indicated.
- b. The detail layout of the equipment/machinery to be shown powered by the engine.
- c. The method of the main drive, whether belt/s or others must be presented.
- d. The piping installation especially those within a height of 2.13 meters from the floor line.
- e. Guarding of moving or power transmission parts.

4. Internal Combustion Engine Data and Specification:

- a. BHP (Factory Catalog Rating)
- b. Manufacturer or make, kind of internal combustion engine
- c. Type and model, serial number
- d. Bore and stroke, number of cylinders
- e. Cycle stroke and revolution per minute (rpm)
- f. Method of fuel injection
- g. Type of cooling
- h. Type of lubrication
- i. Type of governor
- j. Method of starting
- k. Method of drive
- l. Internal Combustion Engine application/use

5. Foundation Design Computation:

- a. The gross weight of the machine engine and its accessories.
- b. The base area and volume of concrete foundation.
- c. The type of concrete mixture used and density of concrete.
- d. The soil bearing capacity in the locality where the engine is to be installed.
- e. The type of safety of the concrete foundation shall be at least five.

6. Size of Plans:

All sheets of plans to be submitted shall be of the following sizes:

375 cm. x 530 cm. -----Minimum
530 cm. x 750 cm.
750 cm. x 1065 cm.-----Maximum

7. Title Block:

The size shall be 7.62 cm. in width, while the total length of the lower part of the plan will be occupied by the title block to contain:

- a. Name in print, signature and seal of professional mechanical engineer indicating his/her registration number, PTR number, place and date issued and Tax Identification Number.
- b. Initials of the draftsman, date of plan prepared, sheet number and scale used. Minimum scale of 1:100 except for small and minute parts/details where a convenient scale may be used to show clearly the parts/details.
- c. Title of the plan.
- d. Name in print and signature of owner/manager of the establishment indicating his/her Tax Identification Number.
- e. Name and address of establishment.

1185 : Portable/Mobile Internal Combustion Engine:

1. Application for installation of a portable/mobile internal combustion engine shall be filed with the Regional Labor Office concerned for the processing or verification accompanied by the manufacturers data sheets, working drawing showing the mounting of the unit in white or blue print, all in five (5) copies.
2. All plans shall be drawn in standard metric scale. Minimum scale shall be 1:100 except for small and minute parts/details where a convenient scale may be used to show clearly the parts/details.
3. All pertinent papers/documents required shall be signed by the owner/ manager of the unit and signed and sealed by a professional mechanical engineer.
4. The necessary annual inspection shall be conducted on or before the expiration date of the permit to operate issued by the Regional Labor Office concerned and the inspection fee shall be paid for the issuance of a new permit.
5. The new permit shall be valid for one-year operation regardless of the subsequent transfer of location of operation of such unit, provided that such permit is available at the location of operation.

RULE 1200 MACHINE GUARDING

1201 : Definitions:

For purposes of this Rule, the following terms are hereby defined:

- (1) *"Prime Mover"* An engine or motor operated by steam, gas, air, electricity, liquid or gaseous fuel, liquid in motion or other forms of energy and whose main function is to drive or operate, either directly or indirectly other mechanical equipment.
- (2) *"Mechanical Power Transmission Equipment:"* All mechanical means of transmitting power from prime movers to a machine up to but not including the point of operation.
- (3) *"Point of Operation "*"That part of a working machine at which cutting, shaping, forming or any other necessary operation is accomplished, and/or that point or location where stock or materials is fed to the machine. A machine may have more than one point of operation.
- (4) *"Flywheel"* includes flywheels, balance wheels and pulleys which are mounted on and revolves with the crankshaft of an engine or other shafting of a prime mover, which by its inertia assists in securing uniform motion of machinery by resisting sudden changes of speed.
- (5) *"Transmission Machinery "* Every shaft, wheel, drum, pulley, systems of tight and loose pulleys couplings, clutch, driving belts, V-belts sheaves and belts, chains and sprockets, gearing, torque connectors, hydraulic couplings, magnetic couplings, speed reducers, speed increasers or other power transmission devices by which the motion of any engine is transmitted to or received by any other machinery or appliance.
- (6) *"Guarded"* Shielded, fenced, enclosed or otherwise protected according to their orders, by means of suitable enclosures, covers, or casing through "U" guards, shield guards, standard railings, or by the nature of the location where permitted in these orders, so as to remove the liability of accidental contact or approach dangerous to persons.
- (7) *"Standard Machinery Guard"* Means guard constructed as prescribed in Rule 1203.
- (8) *"Standard Railings and Toeboards"* Means railings and toeboards constructed as specified in Rule 1060.

1202 : Provisions of Guards:

All moving parts of prime movers, transmission equipment and all dangerous parts of driven machinery shall be effectively guarded, unless so constructed or located to prevent any person or object from coming or brought into contact with them.

1202.01 : Built-In Safety:

- (1) When an employer orders machinery, machine parts or other working equipment, he shall specify in his order that such machinery, parts or equipment shall be provided with all the protective devices required by safety rules for any dangerous part thereof. In cases where it is impossible to anticipate the type of protective device required for special operations, such devices may be obtained or provided as soon as possible.
- (2) Manufacturers, vendors and lessors of machinery, machine parts or other working equipment shall ensure that every article delivered, sold or let by them is provided with all the required protective devices.
- (3) Employers installing new machinery, machine parts or other working equipment, and persons or firms in charge of the installation of such machinery or parts of machinery and other working equipment shall see to it that these are properly guarded in conformity with existing safety standards.

1202.02 : Removal of Guards:

- (1) No person shall remove or make ineffective any safeguard, safety appliance, or safety device guarding a dangerous machine or machine part unless such is authorized and the machine is stopped for the purpose of immediately repairing and adjusting such machinery, guard, appliance or device.
- (2) Warning signs with standard color shall be installed near the machine being repaired or its guards removed.
- (3) Upon completion of the repairs or adjustment, such guards, appliances or devices shall immediately be reinstalled before the machine is used.

1203 : Standard Machinery Guards:

1203.01 : Guards

- (1) Guards shall be designed, constructed and used that they will:
 - a. provide positive protection;
 - b. prevent all access to the danger zone during operations;
 - c. not interfere unnecessarily or inconvenience operation or production;
 - d. operate automatically or with minimum effort;
 - e. be suitable for the job and the machine;
 - f. not obstruct or interfere with machine oiling, inspection, adjustment and repair;
 - g. withstand long use with minimum maintenance;
 - h. resist normal wear and stock;
 - i. be durable, fire and erosion resistant;
 - j. not constitute a hazard by themselves; and
 - k. give protection against operational contingencies and not merely against normally expected hazards.
- (2) Standard guards or enclosures shall be made of materials suitable for the purpose for which they are designed and constructed.
- (3) All machinery guards shall be securely fastened to the machine or to the floor, wall or ceiling and shall be kept in place whenever the machine is in operation.

1203.02 : Framework:

The following are minimum standards for the construction of machinery guards:

- (1) *Small Guards:*
 - a. minimum dimensions of materials of the framework of metal guards 75 cm (30 in.) or less in height and width, a surface area not exceeding 1 sq. meter (11 sq. ft.) shall be 1 cm. (3/8 in.) for solid rod, 20 mm x 10 mm x 3 mm (3/4" by 3/8" by 1/8") for angle iron.
 - b. other construction may be substituted for guards of the same areas if such will provide equal strength.
- (2) *Braced Guards:*
 - a. minimum dimensions of materials of the framework of guards more than 75 cm. (30 in.) in height and with a surface area exceeding 1 sq. meter (11 sq. ft.) shall be 25 mm. x 25 mm. x 3 mm. (1 " x 1" x 1/8") for angle iron or 20 mm. (3/4 in.) diameter for metal pipe.

- b. such guards should be rigidly braced every 90 cm. (3 ft.) or fractional part of their height to some fixed part of machinery or other structure.

(3) *Unbraced Guards:*

When a machinery guard is fastened to the floor or working platform without any other support or bracing, the framework shall be:

- a. Wood Railings: The top rail and post shall be 50 mm x 100 mm and the intermediate rail shall be 50 mm x 50 mm or 20 mm x 100 mm.
- b. All such railings shall be smooth and free from large or loose knots, protruding nails or belts, splinters, fine slivers or cracks.
- c. Wood guards shall be securely fastened together with wood screws, hardwood dowels, pins, bolts, rivets, or crimped nails and shall be equal in rigidity to metal guards.
- d. Pipe Railings: The top rail and post shall be 30 mm. in diameters and intermediate rail shall be 25 mm. in diameter.
- e. Structural Metal Railings: Top rails and posts of angle iron shall be 38 mm x 38mm x 5 mm and the intermediate rails of angle iron shall be 32 mm x 32 mm x 3 mm.
- f. All structural metal railings shall be of sound materials free from defects and all sharp corners shall be rounded and smooth.

(4) *Joints:*

All framework joints shall be of equivalent strength to the materials of the frame.

(5) *Horizontal Overhead Belt Guards:*

Framework of guards for the horizontal overhead belts, ropes, or chains, more than 2.6 m. (8 1/2 ft.) above the floor or platform of angle iron, shall be at least:

- a. 25 x 25 x 5 mm. (1 by 1 by 3/16 in.) for belts up to 25 cm. (10 in.) in width;
- b. 38 x 38 x 6 mm. (1 1/2 by 1 1/2 by 1/4 in) for belts over 25 up to 35 cm (10 to 14 in.) in width;
- c. 50 x 50 x 8 mm. (2 by 2 by 5 /16 in.) for belts over 35 up to 60 cm. (14 to 24 in.) in width; and
- d. 80 x 80 x 10 mm. (3 by 3 by 3/8 in.) for belts over 60 cm. (24 in.) in width;
- e. Horizontal overhead belt more than 2100 mm. above a floor, platform or other working level shall be guarded for their entire length if located over passageways of working places.

(6) Guards support, if of flat iron, should be of the following dimensions:

- a. 38 x 6 mm. (1 1/2 by 1/4 in.) for belts up to 25 cm. (10 in.) in width;
- b. 50 x 8 mm. (2 by 5/16 in.) for belts over 25 up to 35 cm. (10 to 14 in.) in width;
- c. 50 x 10 mm. (2 by 3/8 in.) for belts over 35 up to 60 cm. (14 to 24 in.) in width., and
- d. 65 x 10 mm. (2 1/2 by 3/8 in.) for belts over 60 cm. (24 in.) in width.

(7) All guards should be provided with an adequate number of supports and attachments to ensure sufficient rigidity and resistance.

1203.03 : Fillers:

(1) *Minimum Dimensions of Materials:*

- a. Fillers should be made of solid sheet metal not less than 0.8 mm. in thickness, perforated sheet metal not less than 1.00 mm. in thickness or woven wire not less than 1.6 mm. in diameter.
- b. Fillers of other materials of equal strength for the same area may be substituted. Please see Table 3.1 (Appendix)

(2) *Woven Wire:*

- a. Woven wire shall be of the type in which the wires are securely fastened at every crosspoint by welding or galvanizing or soldering except in the case of diamond or square wire mesh made of wire 2 mm. (0.08 in.) in diameter, 20 mm. (3/4 in) mesh or heavier.

(3) *Fastenings:*

- a. Filler materials shall be securely fastened to angle iron framework with rivets or bolts by welding or weaving through the frames.
- b. Wire mesh made of wire 2 mm. (0.08 in.) in diameter, 20 mm. (3/4 in.) mesh or heavier, may be bent entirely around rod frames.
- c. Filler materials for pipe frame shall be made into panels with rolled edges or bound with sheet metal and the panels shall be fastened to the frames with steel clips.

(4) *Filler Openings:*

- a. Where guards or enclosures is within 100 mm. from moving parts, opening on the guard shall be of such size as will prevent passage of any object greater than 12 mm. in diameter.
- b. Where guards are located more than 100 mm. and less than 380 mm. from moving parts, the maximum opening shall not be more than 50 mm. and where slotted guards are used, the width of the opening shall be not greater than 25 mm. and its area shall be not more than 13 sq. cm.

1203.04: Height of Guards:

Except as provided for specific installation, the minimum height of guards shall be 1.00 meter from the upper surface of the top rail to the floor or platform level.

1203.05: Floor Clearances:

Standards railing guards shall be placed not less than 380 mm. nor more than 500 mm. from any moving parts, provided however that where clearance from other moving parts are less than 380 mm. such parts shall be guarded as required elsewhere in this Standards.

1203.06: Interlocks:

Guards on power driven machinery shall be interlocked with a machine control to prevent operation of the machine unless the guard is in its proper position, or arranged that it is difficult to operate the machine unless the guard is in place.

1203.07: "U" Guards:

- (1) "U" guards shall be constructed as specified in table 3.1 Appendix.
- (2) Edges shall be smooth and if the size of the guard requires, it shall be reinforced by rolling or wiring or by bending with angle or flat metal.

1203.08 : Wood Guards:

(1) *Material*

- a. Wood used for guards shall be sound, tough and free from any loose knots.

(2) *Construction*

- a. Wood guards shall be made of planed lumber not less than 25 mm. (1 in.), or of wood or fabricated lumber of equal strength. The edges and corners shall be rounded off.
- b. Wood guards shall be securely fastened together with wood screws, hardwood dowels, pins, bolts, rivets, or crimped nails and shall be equal in rigidity to metal guards fulfilling the requirements of Rules 1203.01, 1203.02 and 1203.03.

1204 : Machine Guard at Point of Operation:

1204.01: General Provisions:

- (1) The point of operation of machinery shall be effectively guarded.
- (2) Mechanical feeding and ejection devices shall be provided.
- (3) Individual starting and stopping devices shall be provided on every working machine having a cutting, drawing, grinding, pressing, punching, shearing or squeezing action to make it possible for the operator to start or stop the machine without leaving his working position.
- (4) Enclosed guard shall conform to the provisions of Rules 1203.01 to 1203.08. Where visibility of operations is desirable, the fillers for the guards covering points of operation may be of clear transparent material where the strength and rigidity of standard fillers are not necessary.
- (5) Where pedals are used to actuate machinery or parts of machinery, an automatic locking device shall be attached to the pedal or inverted U-shaped guard shall be fastened to the floor over the treadle leaving sufficient clearance for the foot of the operator between the treadle and the guard.

1205 : Transmission Machinery Guarding:

1205.01: Prime Movers:

- (1) Flywheel and other prime movers shall be periodically inspected by qualified personnel for cracks, incorrect adjustments and other defects to prevent explosion.
- (2) Any exposed part of flywheel 2,100 mm or less above the floor or platform shall be guarded.
- (3) In areas where standard railings are used, the railings shall not be less than 380 mm. nor more than 500 mm from the rim of the wheel. A standard toe board shall also be provided.
- (4) When it is necessary to move flywheels for starting, guards may be removed temporarily but shall be returned immediately after such an operation is completed. A slot opening for jack bar will be permitted.
- (5) Every jack bar should be equipped with a hand stop so located that it will safely clear the flywheel guards when fully inserted but will prevent the worker's hand being pinched between the slot and bar.
- (6) Any portion of the flywheel protruding through a place where workers work or pass shall be completely enclosed or surrounded by guard rails.

1205.02 : Governors:

- (1) Centrifugal governors shall be guarded or enclosed in the same way as flywheels.
- (2) Fly ball governors located 2,135 mm or less above the floor, platform or other working level having rotating, projecting or sectional parts or hazardous recesses shall be enclosed or covered with guard secured to rigid supports and accessible to oiling and inspection.

1205.03 : Collars and Couplings:

- (1) Revolving collars and couplings shall be cylindrical and no screws or bolts project beyond largest periphery. Couplings shall be enclosed by stationary guards.

1205.04 : Keys and Set Screws:

- (1) Projecting keys, set screws and other projections in revolving parts of a machine not guarded by the frame of the machine or by location shall be removed, made flush or guarded by non-rotating metal caps.

1205.05 : Tail Rods:

- (1) Tail rods extending in areas where persons work or pass shall be guarded.
- (2) If guardrails are used, the range shall be 50.8 cm. (20 in.) when the tail is fully extended.

1205.06 : Shafting:

- (1) Shafts shall be completely enclosed 2.13 m. (7 ft.) from the floor.
- (2) Shafts under benches or floors shall be covered.
- (3) Exposed face ends of shafts over half the diameter of the shaft shall be guarded with non-rotating caps.

1205.07 : Belt and Pulley Drive:

- (1) Any part of a horizontal belt and pulley drive, involving the use of flat crowned or flanged pulleys, which is 2,100 mm or less above the floor or working level shall be guarded.
- (2) The distance between two (2) pulleys, except in cases of tight and loose pulleys should be greater than the width of the belt.
- (3) Overhead belts over 2,100 mm from the floor shall be guarded in its entire length if:
 - a. Located over passageways or workplaces and running at speed of 20 km/hr. or over.
 - b. Center to center distance between pulleys is 3.05 m or more.
 - c. Belt is 200 mm or more in width.

The bottom and sides shall also be guarded.

- 4) When both runs of belts are 2,100 mm or less from the floor, the belts shall be completely enclosed.
- (5) Where a group of flat belt drive is guarded by standard railing guard, such drives shall be considered guarded where the distance from the vertical plane of the rail to the nearest point of any belt or pulley is not less than 380 mm nor more than 500 mm and where the distance between any two adjacent belts or pulleys does not exceed 900 mm.

- (6) Belt-type variable speed drives located 2,100 mm or less from the floor or working level shall have all moving parts guarded.
- (7) Belts and shafting in workplaces where flammable liquids or vapors of explosives dusts are present shall be grounded or the accumulation of static electricity shall be controlled.
- (8) Pulleys with a speed of 400 rpm shall be periodically inspected for defects.

1205.08 : Conveyors:

- (1) Screw conveyors 2,100 mm. or less above floor or other working level shall be completely covered with substantial lids except that screw conveyors the top of which is 600 mm or less above the floor or other working level, or below the floor level may be guarded by standard railing guards having toeboards of midrail height or shall be guarded by substantial covers or gratings.
- (2) All belt conveyors head pulleys, tail pulleys, single tension pulleys and dip take-up pulleys shall be so guarded that the entire sides of the pulleys are covered and the guard shall extend in the direction of the run of the belt such a distance that a person cannot reach behind it and become caught in the nip point between the belt and the pulley.
- (3) Portable inclined conveyors shall have head and tail pulleys or sprockets and other power transmission equipment guarded accordingly.
- (4) Where necessary to pass over exposed chain, belt, bucket, screw or roller conveyors, such crossovers shall be bridged or catwalk properly equipped with standard railings and toeboards and shall have a safe means of access either fixed ladder, ramp or stairway.
- (5) Conveyors passing over areas that are occupied or used by employees shall be so guarded as to prevent the materials handled from falling on and causing injury to employees.
- (6) Where workmen pass under the return strands of chain conveyors a shallow through or other effective means or sufficient strength to carry the weight of the broken chain shall be provided.

1205.09 : Gears and Sprockets:

- (1) All power operated gears and sprockets wherever located shall be completely covered.
- (2) The chains, sprockets and chain drives located within 2,100 mm of the floor or other working level shall be guarded in the same manner as the belts are.

1205.10 : Starting and Stopping Devices:

- (1) Clutches, cut-off couplings or clutch pulleys and other mechanical power control devices having projecting parts where any parts of such devices is located 2,100 mm or less above the floor or working level shall be completely enclosed and such enclosure shall not interfere with the operation of the mechanical control.
- (2) Each process machine driven by an individual prime mover shall be equipped with emergency stopping devices which can be safely actuated from the operator's working position unless the machine is equipped with automatic clutch which will stop or disengage all machine operation.
- (3) Where an operator attends one or more process machine not having individual drive each machine shall be equipped with a stopping device which can be safely actuated from the operator's working position at the machine, such a stopping device may stop an entire group of machine by stopping the prime mover, power transmission or it may be a machine clutch, cut-off coupling or tight and loose pulley with belt shifter which can stop all the machine operations at any time on any machine. Pole or hand shifting of belts is not considered adequate means for disconnecting the power.

Exception: Where due to the process, machine must be operated in groups, the machine power control may stop the entire group of machines, such group drives shall be provided with conveniently located readily accessible, and properly marked or otherwise identified emergency stop device.

- (4) Where practicable each process machine simultaneously attended or operated by more than one employee shall be equipped with a machine power control for each employee exposed to point of operation hazards. Said controls shall be interlocked in a manner to prevent operation of machine unless all controls are operated simultaneously.
- (5) Machine power controls shall be maintained in safe operating conditions and shall be so designed, installed and or located that they are not likely to operate from accidental contact with objects or parts of the body.
- (6) Motor switches, friction clutches, belt shifters, engine stops and similar machine parts shall be arranged that control can be effected at the point of operation.

1206 : Woodworking Machinery:

1206.01: Swing and Cut-off Saw:

- (1) Hood guards shall be provided on swing saws extending below the platforms with the side cover next to the end of the platform preferably hinged for easy access to the saw.
- (2) The rear of the saw shall be completely housed when the saw is in back position where it is possible to pass behind a swing and cut-off saw. The housing shall include the swing frame as well as the saw.
- (3) Swing saws shall be provided with limit chains or other positive means to prevent travel beyond the front edge of the saw table.
- (4) Swing saw shall be provided with latches or other positive means to prevent the saw from rebounding when swinging back and shall not depend on fiber rope or cord for its functioning.
- (5) Swing saws shall be provided with counterweights or other effective devices which will automatically return the saw when its front edge is released by the operator at any point of its travel.
- (6) Counterweights on swing saws shall be prevented from dropping by means of:
 - a. bolts through the extreme ends of the bar; and
 - b. safety chains secured to the ceiling or other overhead support.
- (7) If counterweight is used all bolts supporting the bar and weight shall be provided with nuts and cotter pins.

1206.02 : Table Saws:

- (1) Every circular and fed table saw shall be guarded by hood enclosing completely the portion of the saw above the table. The hood and mounting shall be so arranged that the hood will automatically adjust itself to the thickness of the stock being cut without considerable resistance to the material being sawed.
- (2) Where the saw moves forward horizontally the hood or guard shall extend at least 50 mm in front of the saw teeth when the saw is in back position. The width of the hood shall be limited so as to provide not more than 12.70 mm clearance on each side of saw blade. A fixed or manually adjusted hood or guard may be allowed, provided the space between the bottom of the guard and the material being cut does not exceed 12.70 mm.

- (3) Except when grooving and when a roller wheel is provided at its back, the saw shall be provided with a spreader mounted directly at the back of the saw at a distance of not more than 0.95 cm. and shall be supported so that all times it will be in alignment with the saw when the table is lifted or tilted. The spreader shall be slightly thinner than the saw kerf and slightly thicker than the saw blade.
- (4) The saw shall be provided with anti-kick-back device to prevent the stock from being thrown back towards the operator. Anti-kick-back devices shall be designed to be effective for all thickness of material.
- (5) The exposed part of the saw blade under the table shall be enclosed or guarded against contact.
- (6) For narrow or thin cuts, push sticks or push blocks shall be used and the operator shall always stay away from the direct line of the stock being sawed.
- (7) The saw guard shall be equipped with a handle or lug by which it may be temporarily retracted without exposing the operator's fingers to the blade.
- (8) Saw guards shall not be locked in an open position and shall be maintained in good working conditions at all times.

1206.03: Planners:

- (1) Cutting knives shall be completely enclosed, templates, jigs or fixture which will enable the part to be processed without exposing the operator's hand to the danger zone shall be used.
- (2) The feeding mechanisms of planners shall be guarded or enclosed leaving only the space required for feeding of the stock. The guard shall be fastened to the frame carrying the rolls so as to remain in adjustment for any thickness of the stock.
- (3) Power feed planners shall be provided with anti-kick-back devices.

1206.04: Jointers:

- (1) A suitable guard which will automatically adjust itself to cover the portion of the cutting head exposed during the planing operations shall be used. The guard shall be capable of protecting the entire length of the cutting space in the table.
- (2) All jointers shall be equipped with cylindrical cutting heads.
- (3) The exposed portions of the cutting head at the rear of the fence shall be covered.
- (4) For short cuts, push sticks or blocks shall be used.

1206.05: Sanders:

- (1) Belt sanders shall have both pulleys and the unused run of the sanding belt enclosed. Rim guards will be acceptable for pulleys with smooth disc wheels provided that on-running nip points are guarded. Guards may be hinged to permit sanding on the pulley.
- (2) Disc sanders shall have the periphery and back of revolving disc guarded, and the space between revolving disc and edge of table shall not be greater than 6.35 mm.
- (3) The exposed parts of the drum of the drum sanders except for the portion where the material comes in contact with the abrasive surfaces shall be guarded.
- (4) The revolving head of the elbow sander shall be fully guarded except where abrasive comes in contact with the material.

1206.06 : Band Saws:

- (1) The upper and lower band wheel shall be guarded and the periphery of the enclosure shall be of solid metal. The cover at the back and front of the saw shall be of solid or mesh metal.
- (2) Feed rolls of band resaws and band rip-saws shall be protected with a semi-cylindrical guard to prevent the hands of the employee from coming in contact with the in-running rolls at any point. The guard shall be constructed of heavy material, preferably metal and the edge of the guard shall come to within 12.70 mm. of the plane formed by the inside face of the feed roll in contact with the stock being cut.
- (3) Large band saws shall be provided with a breaking device to bring the saw to a stop when the power is cut off.

1206.07: Other Provisions:

- (1) Proper guarding of machines in die casting, paper and printing, textile and laundry, leather and composition, food and tobacco processing, chemical industry, rubber and composition working, stone, clay and glass working, and cotton and seed cotton processing as provided for in Chapter 4 of PSME CODE are hereby adopted.

1207 : Guarding Mechanical Power Presses, Foot and Hand Power Presses

1207.01 : General Provisions:

Guards for mechanical power, foot and hand power presses other than what is provided in this Rule may be acceptable provided they afford equal protection to the worker.

- (1) *Automatic, semi-automatic or mechanical feed presses:*
 - a. Fixed guards or enclosures - a fixed guard or enclosure shall be so arranged and equipped to guard the front and both sides to prevent the operator's fingers from reaching the danger zone. However, said fixed guards may not be required where access to the danger zone by the operator is not possible or necessary.
- (2) *Hand and Foot Power Presses:*
 - a. Fixed guard or enclosure - a fixed guard or enclosure across the front and shall be so arranged that the finger cannot be inserted under, over, through or around the guard. The guard may be an integral part of the die or attached to the press frame;
 - b. Interlocking Gate Guard - a guard or gate operated by a tripping device which will not permit the press to operate until after the hands of the operator shall have been removed from the danger zone.
 - c. Limited Ram Travel - the stroke of the ram or plunger shall be such that the clearance between the ram and the plunger and die or the stripper shall not be more 10 mm.
 - d. Swept Guard - a mechanically operated guard which throws the hands of the operator out of the way as the ram descends. Such a guard should be padded to prevent injury should it strike the operator's wrist.
 - e. Pull-Out Protective Device - a mechanically operated device attached to the operator's hands, wrist or arms which withdraws the operator's hands from the danger zone as the ram descends.
 - f. Two Handed Trip Device - an arrangement whereby hands are used instead of feet to trip the press: the simultaneous and continuous action of both hands being required.

1207.02: Controls:

Mechanical, electrical or air controls shall be permitted on large presses requiring one or more operators provided that such controls require the simultaneous action of both hands of each operator to trip the press. Such controls shall be located in such a way that the hands or any part of the body of the operator will not reach the danger zone during the descending stroke.

1207.03: Pedal or Treadle Guards:

Pedals or treadles of foot actuated presses shall be provided with substantial guards to prevent accidental tripping. For treadles other than long bars extending across the machine the openings in such guards shall not be more than twice the width of the foot.

1207.04: Special Hand Tools:

Where necessary, special hand tools such as pushers, pickers, pliers, tweezers, forks, magnets, or suction discs shall also be provided for feeding or removing materials without placing the hands in the danger zone.

RULE 1210 ELECTRICAL SAFETY

1211 : Philippine Electrical Code:

The Philippine Electrical Code is hereby adopted and the standards contained therein shall be considered safety standards to the extent that they safeguard any person employed in any workplace and control the practice of electrical engineering.

1212 : Electrical Safety Inspection:

1212.01 : Definition:

- (1) "*Installation*" as used in this Rule shall mean assemblage of electrical equipment in a given location, designed for coordinated operation, properly erected and wired.
- (2) "*Approved*" shall mean acceptable to the Bureau after test and examination show compliance with standards.

1212.02 : General Provisions:

- (1) No electrical installation shall be undertaken without the plans having been approved by the Secretary or his authorized representative.
- (2) No service or power supply shall be connected to any electrical installation by any utility company supplying electricity or by any person until the necessary final inspection is conducted and a safety certificate/permit issued by the Regional Labor Office or authorized representative having jurisdiction over the case.
- (3) The following are excluded in the coverage of this Rule;
 - a. electric generating plants with franchises which are under the jurisdiction of the Board of Power and Waterworks.
 - b. electric generating plants and electrical installations in radio and television station which are under the jurisdiction of the Department of Public Works, Transportation and Communications, and
 - c. electrical installation for conveyances used in connection with water transportation which are under the jurisdiction of the Bureau of Customs.
- (4) The exemptions under 3 (a) and (b) are only for the design and construction, the electrical installation may be inspected by the Regional Labor Office or authorized representative, if such poses danger to the safety and health of the workers therein.
- (5) The practice of electrical engineering as required under this Rule shall be subjected to the provisions of the Philippine Electrical Engineering Law, R.A. 184.

1212.03 : Application and Plans:

- (1) Application for electrical installation shall be filed by the owner/manager to the Secretary or his authorized representative having jurisdiction accompanied by plans, designs and/or specifications in triplicate prepared under the responsible charge of, signed and sealed by a registered professional electrical engineer duly licensed to practice in the Philippines. The approved plans shall serve as the installation permit and construction may be started.

- (2) Application for the electrical installation for household lighting utilizing energy involving installation of twenty (20) outlets or less, or for the power or heat utilizing electrical energy not exceeding four (4) kilowatts need not be accompanied by plans. However, a layout sketch of the proposed installation shall be submitted with a list of materials and devices to be used and a signed statement to the effect that it shall conform with the rules and regulations of this Standards.
- (3) After construction, a certificate of final inspection shall be secured from the office having jurisdiction, which shall serve as a service connection, safety permit and to use the installation for one year counted from the date of final inspection.
- (4) Application for a certificate of electrical inspection shall be filed by the owner, manager or his authorized representative with the Regional Labor Office or authorized representative having jurisdiction at least thirty (30) days before the expiration date of the safety permit.

1212.04 : Inspection:

- (1) The safety engineers of the Regional Labor Office or authorized representative having jurisdiction shall conduct annual safety inspection on all electrical installation and/or special inspections as provided in Rule 1004.
- (2) All Regional Labor Offices shall adopt and maintain an effective records control of all electrical inspections in order that re-inspection shall not go beyond the expiration date.

1212.05 : Permit to Use Installation:

- (1) A certificate to use the installation shall be issued subject to the following:
 - a. Work shall be performed under the responsible charge or supervision of a duly authorized electrical engineer or a master electrician in conformity with the field of action authorized for each grade.
 - b. All work shall conform with the approved plans and the provisions of this Standards.
 - c. All materials used in the installation shall be of the approved type.
 - d. The certificate shall be valid for a period of one (1) year counted from the date of final inspection and renewable annually thereafter if inspection show it is safe to use.
- (2) A certificate shall continue to be valid even beyond the expiration date if an application for renewal was submitted and filed at least thirty (30) days before the expiration date and for reasons beyond its control, the enforcing agency concerned failed to act on the application on or before the date of expiration.
- (3) Temporary Installation Certificate: A temporary certificate may be issued for the following:
 - a. temporary installations for building construction or other civil engineering work;
 - b. temporary installations pending completion of permanent installation; and
 - c. temporary installation for amusements such as ferris wheels, fairs, fiestas and other similar electrical installations.
- (4) Temporary Installation Certificate shall be issued after the following conditions are complied with:
 - a. Clearance by the enforcing authority of the electrical plans where the installation is over twenty (20) outlets or the total load exceeds four (4) kilowatts.

- b. Submission of sketch of the proposed installation to the Regional Labor Office or authorized representative for installation of twenty (20) or less outlets on for loads not exceeding four (4) kilowatts, showing a layout of the wiring installation, location and a signed statement that the installation shall conform with this Standards and that all materials used shall be of the approved type.

(5) Duration of Temporary Certificate:

- a. Temporary installation for construction work and installation pending permanent installation shall be for a period of one hundred twenty (120) days from the date of issuance subject to renewal until the work is completed. Each renewal is for a period of one hundred twenty (120) days.
- b. Installations for amusements shall be for sixty (60) days renewable for a maximum of sixty (60) days.

1212.06 : Additional Loads:

- (1) When subsequent inspection is conducted for additional loads to an existing installation within a covered year, fees shall be charged only for the additional load.
- (2) Permit for additional loads inspected within the covered year shall have for their expiration date the date of the original electrical installation.
- (3) The original installation including all additional loads shall be reinspected on the same date of the following year.
- (4) Additional load and/or alteration of installation is not allowed unless a permit is issued.

1213 : Inspection Fees:

Refer to Rule 1970

1214 : Requirements in the Preparation of Electrical Plans:

Before electrical wiring installation is done, the owner/manager or his authorized representative shall file the required application for electrical wiring installation in triplicate, accompanied by three (3) copies of each sheet of plans in white print. The following shall be incorporated in the plans.

(1) *Location Plans:*

- a. site of the compound indicating any known landmarks, private or public buildings and arrow indicating NORTH direction drawn not necessarily to scale.
- b. the service drop from the utility company pole to the building structure; and
- c. all feeder lines.

(2) *Electrical Layout:*

- a. power layout, in addition to the lighting layout, if the number of motors exceed (10);
- b. other loads;
- c. bell system circuit;
- d. telephone system circuit;

- e. riser or single line diagram
- f. riser design computation;
- g. load schedule;
- h. electrical legend and specifications

(3) *Outdoor sub-station:*

- a. location of outdoor sub-station indicating the distance with respect to the nearest building,
- b. primary and secondary lines,
- c. fencing or enclosure,
- d. top, front and side views showing pertinent distances,
- e. grounding system,
- f. specification
- c. single line diagram
- h. legend
- i. design computation.

(4) *Indoor Sub-station:*

Transformer vault walls, roof, flooring, doorways, ventilation and drainage including items, b, d, e, f, g, h and i of outdoor sub-station requirements.

RULE 1220
ELEVATORS AND RELATED EQUIPMENT

1221 : Definitions:

- (1) "*Elevator* " shall mean a hoisting and lowering mechanism equipped with a car or platform, which moves in guides in substantially vertical direction, serving two or more floors of a building or structure.
- (2) "*Hoistway* " shall mean a shaftway for the travel of one or more elevators. It includes the pit and terminates at the underside of the overhead machinery/space floor or grating, or at the underside of the roof.
- (3) "*Buffer* " shall mean a device designed to stop a descending car or counterweight beyond its normal limit of travel by steering or by absorbing and dissipating the kinetic energy of the car or counterweight.
- (4) "*Safety Counterweight* " shall mean a mechanical device attached to the counterweight frame to stop and hold the counterweight in case of predetermined over speed or free fall or if the hoisting ropes slacken.
- (5) "*Elevator Pit* " shall mean that portion of a hoist extending from the level of the lowest landing door to the floor at the bottom of the hoistway.
- (6) "*Elevator Landing* " shall mean that portion of floor, balcony, or platform to receive and discharge passenger or freight.
- (7) "*Hoistway Enclosure* " shall mean the fixed structure, consisting of vertical walls or partitions, which isolates from all other parts of the building or from an adjacent hoistway in which the hoistway floor and assemblies are installed.
- (8) "*Elevator Car* " shall mean the load carrying unit including the platform, car frame, enclosure and car door or gate.
- (9) "*Car door or gate* " shall mean the movable portion of the car entrance which closes the opening access to the car.
- (10) "*Control* " shall mean the system governing the starting, stopping, direction of motion, acceleration and speed.
- (11) "*Controller* " shall mean a device or group of devices which serves to control in a predetermined manner the apparatus to which it is connected.
- (12) "*Emergency stop switch* " shall mean a device located in the car which when operated causes the electric power to be removed from the driving machine, motor and brake of an electric elevator or from the electrically operated valves and/or pump motor of a hydraulic elevator.
- (13) "*Trunsom* " shall mean a panel or panels used to close a hoistway enclosure opening above a hoistway entrance.
- (14) "*Travel* " shall mean the vertical distance between the bottom terminal landing and the top terminal landing of an elevator.
- (15) "*Driving Machine* " shall mean the power unit, which applies the energy necessary to raise and lower the elevator car or to drive the elevator.

- (16) "*Car Enclosure* " shall mean the top and the walls of the car resting on and attached to the car platform.
- (17) "*Car Frame* " shall mean the supporting frame to which the car platform, upper and lower sets of guide shoes, car safety and the hoisting rope sheaves or the plunger of a direct plunger elevator are attached.
- (18) "*Car Platform* " shall mean the structure which forms the floor of the car that supports the load.
- (19) "*Dumbwaiter* " shall mean a hoisting and lowering mechanism with a car of limited capacity of 220 kg. (500 lbs.) and size which moves in guides in a substantially vertical direction and is used exclusively for carrying materials.
- (20) "*Escalator* " shall mean a power driven, inclined continuous stairway used for raising and lowering passengers.
- (21) "*Freight Elevator* " shall mean an elevator primarily used for carrying freight and in which only the operator and the persons necessary for unloading and loading the freight are permitted to ride.
- (22) "*Hand Elevator* " shall mean an elevator utilizing manual energy.
- (23) "*Passenger Elevator* " shall mean an elevator used primarily to carry persons.
- (24) "*Power Elevator* " shall mean an elevator utilizing energy other than gravitational or manual to move the car.
- (25) "*Electric Elevator* " shall mean a power elevator where the energy is applied by means of an electric driving machine.
- (26) "*Hydraulic Elevator* " shall mean a power elevator where the energy is applied by means of a liquid under pressure in a cylinder equipped with plunger or piston.
- (27) "*Direct Plunger Elevator* " shall mean a hydraulic elevator having a plunger or piston directly attached to the car frame or platform.
- (28) "*Electric Hydraulic Elevator* " shall mean a direct-plunger elevator where the liquid is pumped under pressure directly into the cylinder by a pump driven by an electric motor.
- (29) "*Roped Hydraulic Elevator* " shall mean a hydraulic elevator having its piston connected to the car with wire ropes.

1222 : General Provisions:

1222.01 : Application:

The owner/manager or his authorized representative shall file with the Secretary or his authorized representative having jurisdiction an application to install or construct an elevator together with the necessary plans in triplicate signed and sealed by a registered professional mechanical engineer for the mechanical plans and by a professional electrical engineer for the electrical plans, both duly licensed to practice in the Philippines.

1222.02 : Permit:

No elevator, (passenger or freight) shall be installed and/or operated in any place of employment in the Philippines without a written permit issued for the purpose by the Regional Labor Office or authorized representative having jurisdiction.

1222.03 : Construction:

- (1) Upon approval of the application and plans together with the necessary supporting papers, the installation and/or construction of the elevator may be started under the direct charge and supervision of a professional mechanical engineer and professional electrical engineer.
- (2) The Regional Office or authorized representative shall be informed either in writing or in person of any deviation made from the approved plans.
- (3) In cases where major alterations are made that may affect the approved design, the plans shall be resubmitted for approval.
- (4) Upon completion of the installation and/or construction, a request for final inspection shall be filed with the Regional Labor Office or authorized representative having jurisdiction. If such inspection show compliance with the approved plans, standards and necessary tests, a permit or certificate shall be issued valid for one (1) year from the date of final inspection.

1222.04 : Renewal:

Application for the renewal of a permit/certificate shall be filed by the owner/manager or his duly authorized representative with the Regional Labor Office or authorized representative with the Regional Labor Office or authorized representative having jurisdiction at least thirty (30) days before the expiration date of permit or certificate.

1223 : General Requirements:

- (1) Every part of the structure, machinery, and equipment shall be:
 - a. of good design, good mechanical construction, sound material, adequate strength, free from defects, and
 - b. kept in good working condition.
- (2) Hoistways from all elevators shall be substantially enclosed throughout their height and there shall be no openings except for necessary doors, windows or skylights.
- (3) Hoistways for elevators outside the buildings shall be substantially enclosed to a height of at least 3 m (10 ft.) provided that the enclosure shall be continuous to the top of any side where there is access to the cage.
- (4) The enclosures shall be either a continuous wall or substantial grill work, metal bars, or wood slats. In general enclosures shall be fire resistant.
- (5)
 - a. Where a hoistway extends into the top of a building, fire-resistant hoistway or machinery spaced enclosures shall be carried to the underside of the roof, if the roof is of fire-resistive construction, and at least 90 cm (3 ft.) above the surface of the roof, if the roof is of non-fire-resistive construction;
 - b. Where a hoistway does not extend into the top floor of a building, the top of the hoistway shall be enclosed with a fire resistant construction.
- (6)
 - a. A pit shall be provided for every elevator.
 - b. The floor of the pit shall be approximately level.

- c. Pits extending below the ground level shall have non-combustible floors and shall be designed to prevent entry of ground water into the pit. The pit floor of any hoistway not extending to the ground shall be of fire resistant construction.
 - d. Hoistway pits shall be of such depth that when the car rests on the fully compressed buffers, there shall be a vertical clearance of not less than 610 mm. between the pit floor and the lowest structural or mechanical part, equipment or device installed beneath the car platform except guide shoes or rollers, safety jaw assemblies, and platform aprons, guards, or other equipment located within 305 mm. horizontally from the sides of the car platform.
 - e. Safe and convenient access shall be provided to all pits and shall conform to the following:
 - (1) Access shall be by means of the lowest hoistway door or by means of a separate pit access door. Where a separate pit access door is provided, it shall be self-closing and provided with a spring-type lock arranged to permit the door to be opened from inside the pit without a key. Such doors shall be kept locked.
 - (2) There shall be installed in the pit of each elevator where the pit extends more than 914 mm below the sill of the pit access door, a fixed vertical ladder or non-combustible material located within reach of the access door. The ladder shall extend not less than 1,067 mm above the sill of the access door, or handgrips shall be provided to the same height.
 - (3) Pits shall be accessible only to authorized persons.
 - f. A permanent lighting fixture shall be provided in all pits, which shall provide an illumination of not less than 54 lux at the pit floor. A light switch shall be so located as to be accessible from the pit access door.
 - g. There shall be installed in the pit of each elevator an enclosed stop switch or switches and shall be located as to be accessible from the pit access door. When the pit exceeds 2,010 mm. in depth, an additional stop switch is required adjacent to the pit ladder and approximately 1,220 mm. above the pit floor. Where more than one switch is provided, they shall be wired in series.
- (7) Hoistways of elevators serving more than three (3) floors shall be provided a means of venting smoke and hot gases to the outer air in case of fire. The area of the vents shall not be less than 3 1/2% of the area of the hoistway or less than 0.28 sq. m. (3 sq.ft.) for each elevator car, which ever is greater. Of the total required vent area, not less than 1/3 shall be permanently opened by a damper.
- a. Vents shall be located:
 - i. in the side of the hoistway, enclosure directly before the floor or floors at the top of the hoistway and shall open directly to the outer air through non-combustible ducts to the outside, or
 - ii. in the wall or roof of the penthouse or overhead machinery space above the roof provided, that the openings have a total area of not less than the minimum required.
 - b. Closed portions of the required vent area shall consist of windows, skylights openings glazed with glass not more than 0.32 cm (1/8 in.) thick.

- (8) Windows on the walls of the hoistway enclosures are prohibited. Frames and sashes of windows in machine rooms and skylights shall be of metal. A metal or concrete floor shall be provided at the top of the hoistway:
- a. Above or level the machine beams where the machine is located over the hoistway.
 - b. Below the overhead sheaves where the machine is located over the hoistway.
 - c. Metal floors shall conform to the following:
 1. If of bar-type grating, the openings between bars shall reject a ball 20 m.m. in diameter.
 2. If of perforated sheet metal or of fabricated openwork construction, the openings shall reject a ball 25 mm. in diameter.
- (9)
- a. The floor shall be capable of sustaining a concentrated load of 136 kg. on any 2,580 mm² area in addition where it constitutes the floor of the main or secondary level machinery space, it shall be designed for a live load of not less than 611 kg/m² in all open areas.
 - b. A sign stating the maximum allowable load for which the floor is designed shall be prominently displayed at eye level in a main and secondary machine room spaces and shall be of metal with block letters with at least 10 cm. (4 in.) high on a white background.
 - c. The floor shall extend over the entire area of the hoistway where the cross-sectional area is ten (10) sq. m. or less. Where the cross-sectional area is greater, the floor shall extend not less than 2 cm. beyond the contour of the machine or sheaves or other equipment, and to the entrance to the machinery space at or above the level of the platform.
 - d. Differences in levels of machine room and machinery space floors shall be avoided, where practicable. Where the difference in level in such floors exceed 30 cm., a railing shall be provided at the edge of the higher level. Where such change in level occurs, ladders or stairs shall be provided for access between levels.
- (10) Ropes, wires or pipes shall not be installed in hoistway, except where necessary for the operation of the elevators. Only electrical wiring, rage ways, and cables used directly in connection with the elevator, including wiring for signals, for communication with the car, for lighting, heating, air conditioning, and ventilating the car, for low voltage fire-detecting systems, for pit sump pumps, and for heating and lighting the hoistway, may be installed inside the hoistway.
- (11) Electrical conductors, other than trailing cables, shall be encased in metal conduits or armored cables and all live parts of the electrical apparatus in hoistways or in cages shall be suitably enclosed to afford protection against accidental contact.
- (12) Landing doors of power driven elevators shall be provided with interlocks to hold the elevator car immovable while any landing is open, and to make it impossible to open any landing door when the car is more than 7.5 cm. (3 in.) away from the landing except with a special emergency key.
- (13) Landing openings in passenger-elevator hoistway enclosures shall be protected preferably by sliding doors, or swinging doors or a combination of both.
- (14) On passenger elevators, vertically sliding or counter-balanced landing doors shall only be permitted if interlocked with elevator car doors or gates so the landing door cannot:

- a. open more than 60 cm. (24 in.) until the hoistway door is locked in its fully opened positions, and
 - b. start to close until the car door or gates is closed to 60 cm. (24 in.) of full closure.
- (15) Landing doors or gates shall when closed, extend to the top of the landing opening.
- (16) Elevators car doors or gates shall, when closed, guard the full opening.
- (17) Passenger elevators, except elevators operated by automatic control shall be operated at all times by regular, trained and competent operators.
- (18) Clearance between the sides of elevators cars and hoistway enclosure shall not be less than 19 mm. except on the sides used for loading and unloading. Clearance between the cars and their counterweight shall not be less than 25 mm. The clearance between counter weight and the counterweight screen and between the counterweight and the hoistway enclosure shall be not less than 19 mm.
- (19) Clearance between the car-platform sill and the hoistway edge of any landing sill, or the hoistway side of any vertically sliding counterweighted or counterbalanced hoistway door or of any vertically sliding counterbalanced biparting hoistway door, shall be not less than 13 mm. where side guides are used, and not less than 19 mm. where corner guides are used. In no case shall such clearances exceed 38 mm.
- (20) The clearance between the landing edge of car platform sill the hoistway enclosure of fascia plate for the full width of the clear hoistway-door opening shall be not more than 127 mm. Except where vertically sliding hoistway doors are installed, the clearance specified may be increased 190 mm. For heavy duty elevators on extra wide door openings, the clearance may be increased where necessary, subject to the approval of the enforcing authority.
- (21) Car and machine counterweights shall run in guides or suitable boxes with the inner surfaces flush or without any obstruction.
- (22) Counterweight runways shall be located in the hoistways with the exposed sides covered from a height of at least 2.15 m. (7 ft.) above the floor of the pit.
- (23) Car or machine counterweights not located in the elevator shaft shall be entirely enclosed on all sides.
- (24) At least two hoisting and two counterweight cables shall be provided on all power freight elevators raised or lowered by cables.
- (25) The operation of freight elevators having only one hoisting cable shall be prohibited, unless the diameter and material of the cable is adequate to carry safely the maximum load with a factor of safety of not less than 12.
- (26) The drum ends of cables shall be securely anchored, preferably by clamps, on the side of the winding drum, and these shall be at least two turns of the hoisting and counterweight cables on winding drums where either the car or counterweights are at its lower limits of travel.
- (27) All cables and drum type elevators shall be provided with equalizers and eveners respectively.
- (28) No elevator machinery, except the idler or deflecting sheave, shall be hanged underneath the supporting beams at the top of the hoistways.

- (29) No machinery, except the buffers and machinery for hydraulic plunger elevators shall be located directly under the elevator hoistway.
- (30) Set screw fastening shall not be used in lieu of keys in the construction and installation of any hoisting machinery.
- (31) All hoisting machinery shall be provided with adequate guards as required by Rule 1200.
- (32) All elevators operated from a pressure tank where the fluid pressure is obtained by directly admitting air or gas to the tank shall comply with the rules governing hydraulic elevators.
- (33) All parts of elevator installation shall be inspected at regular intervals as prescribed by the enforcing authority.
- (34) Elevator cars shall be provided with an audible emergency signal that is operable from within the car and audible outside or with a telephone.
- (35) All elevator cars shall have a sign posted conspicuously which shall show the maximum rated load.
- (36) Power elevators that do not conform to all the regulations for passenger elevators, shall have signs posted at every landing and in the elevator car, prohibiting passengers except the operator from riding.
- (37) All electric elevator cars shall be provided with emergency stop switches, independent of their operating devices and located adjacent to the emergency stop switches.
- (38) The rated speed of power driven elevators carrying an operator shall not exceed 3.66 km/hr. (200 ft. per minute), except in the case of automatic operation and continuous pressure operation elevators or those controlled by a regular operator.
- (39) The rated speed of electric freight elevators with continuous pressure operation shall not exceed 2.76 km/hr. (151 ft. per minute).
- (40) The rated speed of belt or chain-driven freight elevator shall not exceed 1.1 km/hr. (60 ft. per minute), and the rated speed of elevators operating through hatchway covers shall not exceed 0.91 km/hr. (50 ft. per minute)
- (41) Landing openings in freight elevators shall be protected by horizontal or vertical sliding doors, combination sliding and swinging doors, swinging doors, or vertical sliding doors.
- (42) Higher speeds provided in (38), (39), (40) and (41) may be permitted subject to the approval of the enforcing authority.

1224 : Standards Requirements:

For purposes of inspection, checking, test and other considerations prior to the approval of any installation and use of any elevator, the following in accordance with their latest revisions, are hereby adopted:

- (1) A.S.M.E. Elevator Code and
- (2) P.S.M.E. CODE

1225 : Requirements in the Preparation of Plans:

Before an elevator (passenger or freight), manlift, dumbwaiter or escalator is installed, the owner/ manager or his authorized representative shall file with the Secretary or his authorized representative an application for mechanical and electrical wiring installation, to install elevator/manlift/dumbwaiter escalator, and to construct hoistway and install gates and doors, in triplicate, accompanied by three (3) copies of each sheet of plans in white print. The following shall be incorporated in the plans which show the requirements as indicated:

(1) *Location Plans:*

- a. site of the compound indicating any known landmarks, such as street, private or public place or building and an arrow indicating NORTH direction drawn not necessarily to scale.

(2) *Electrical Layout:*

- a. lighting and power layout;
- b. riser or single lines diagrams;
- c. riser design computation;
- d. load schedule;
- e. electrical legend and specification.

(3) *Machine Room:*

- a. Front and side view and plan of the driving machine, governor exit and machine beams;
- b. type of drive.

(4) *Hoistway:*

- a. the construction, specification and dimension;
- b. location of limit switches and all other safety devices.

(5) *Car, Cage and Platform:*

- a. specification materials and dimensions;
- b. side and front views of the car sizes of frameworks, doors, gates, sill, floor and top emergency exits;
- c. ventilation, handrails, guides, tracks, hangers, bumpers, slack devices and controllers;
- d. car safety devices and platform guards.

(6) *Governor:*

- a. the specifications, dimensions and materials;
- b. type, speed and governor marking plate.

(7) *Counterweight:*

- a. dimensions, materials and specifications;
- b. the counterweight safety devices, enclosures, guards, guides and sheaves;
- c. the rope, the rods and frames.

(8) *Buffers, Bumpers, Cars and Counterweights*

- a. the type and location;
- b. the construction, materials and specifications;
- c. the factor of safety and buffer marking plate or rating plate.

(9) *The Pits:*

- a. The dimensions and constructions;
- b. access to pit, light, drainage and guards between adjacent pits.

(10) *Cables, Hoisting and Suspension Ropes:*

- a. the size, material and number of cables;
- b. tensile stress, factor of safety number of strands, number of wires per strand, lay weight per m. and size of the driving drum.

(11) *Design Computation:*

The minimum rate load, speed, factor of safety, weight of counterweight, stresses in car frame, platform frames, tripping speed of governor, stopping distance for car and counterweight safety devices and impact on buffer supports.

(12) *Clearance of Cars and Counterweights:*

- a. the top and bottom car clearance;
- b. the top counterweight clearances;
- c. the maximum bottom runby;
- d. the clearance between car and hoistway, enclosures;
- e. the clearances between the car and counterweight frame;
- f. the clearances between car in multiple hoistway and landing sills, and
- g. the clearance between loading side of car platform and hoistway enclosures.

RULE 1230 IDENTIFICATION OF PIPING SYSTEM

1230.01 : Scope:

This Rule shall provide a common code to assist in the proper identification of materials conveyed in piping systems. This Rule shall cover only the identification of piping systems in industrial and power plants. It does not cover pipes buried in the ground.

1230.02 : Standard Requirements:

Specifying the contents of piping system shall be primarily on the basis of stenciled or lettered legends. Use of color as a means of specifying the type of material conveyed in a piping system shall be in conformity with the provisions of this Standard. Relatively, for the purpose of uniformity and to lessen the chances of error, confusion or inaction especially in times of emergency, Article 11.4, Chapter XI of the Philippine Society of Mechanical Engineers Code, in accordance with its latest edition, is hereby adopted

1230.03 : Definitions:

- (1) "*Piping Systems*" shall include conduit for the liquids, semi-liquids, but not solids carried in air or gas. In addition to pipes of any kind, fittings, valves and pipe coverings are included. Supports, brackets, or other accessories are specifically excluded from the application of this Standards.
- (2) "*Fire Protection Materials and Equipment*" shall include sprinkler system and other fire-protection equipment The identification of this group of materials may also be used to identify or locate such equipment as alarm boxes, extinguishers, fire blankets, fire doors, hose connections, hydrants and other fire-fighting equipments.
- (3) "*Dangerous Materials*" shall include materials which are hazardous to life or property because they are easily ignited, toxic, corrosive, at high temperatures and pressures, productive of poisonous gases or are in themselves poisonous. It also includes materials that are known ordinarily as fire producers or explosives.

1230.04 : Methods of Identification of Contents of Piping System:

- (1) "*Positive Identification*" of contents of piping systems shall be primarily on the basis of stenciled or lettered legends giving the name of content in full or abbreviated form in accordance with Table 25 C. Where it is desirable or necessary to give supplementary information such as hazard or use of the piping system content, this may be done by additional legend or by color applied to the entire piping system, or as colored bands. Legends may be placed on colored bands. (See figure 20.)
- (2) "*Identification by color or by colored bands*" which are supplementary to the use of legends shall be installed at frequent intervals on straight pipe runs (sufficient to identify), close to all valves, and adjacent to all change-in-directions, or where pipes pass through walls and floors. The color identification may be accompanied by use of decals or plastic bands which are made to conform with the standards. If desired, the entire length of the piping system may be painted with the color.

1230.05 : Visibility:

Attention shall be given with reference to pipe markings. Letterings on overhead pipe above normal line of operators' vision shall be placed below the horizontal center line of the pipe (See Figure 20.)

1230.06 : Location of stenciled or lettered legends:

In certain types of plants, it may be desirable to label the pipes at junction points or points of distribution only, while at other locations the markings may be installed at necessary intervals all along the piping, close to valves and to change-in-direction.

1230.07 : Type and Size of Letters for Stencils:

The standard sizes for letters in the use of stencils shall be from 13 to 89 millimeters in height. Tags shall be used for identifying pipes with less than (3/4") 19 millimeters in diameter. The lettering or the background shall be in standard color. (See Table 25-d) In cases where it is decided to paint the entire piping, the color and sizes of legend letters stenciled on the piping for identification of materials conveyed should conform to the specifications. (See Tables 25 a and 25 b).

RULE 1240 POWER PIPING LINES

1241: Definitions:

1. "Power Piping Line" shall include all steam, water, air, gas, hazardous substances, oil piping and the component parts such as the pipe, flanges, bolting, gaskets, valves, fittings and other components related to steam generating plants, central heating plants and industrial plants.
2. "Installation" shall mean assemblance or connection of power piping in a given location, designed for safety operation in accordance with the prescribed standards.
3. "Cleared" shall mean acceptance by the Regional Labor Office concerned after verification and checking of the applications, plans and other pertinent documents showing compliance with prescribed installation requirements.

1242: General Provisions:

1. Application for installation of power pipeline shall be filed with the Regional Labor Office concerned for processing and evaluation. Application shall be accompanied by the working drawings showing location plant piping layout and piping specifications, all in five (5) copies (white/blue print) duly signed by the owner and signed sealed by a professional mechanical engineer.
2. No power piping line shall be connected/installed without the plans cleared by the Regional Labor Office concerned.
3. No power piping line shall be operated until the necessary documents are submitted and final inspection conducted, the safety permit is issued upon payment of the corresponding inspection fee.
4. Any repair work done on power pipeline shall be documented and shall be made available during the conduct of periodic inspection.

1243: Standard Requirements:

For purposes of design installation, inspection and other considerations prior to the clearance of any installation of the power piping connection system, Chapter 11 on Power Piping System of the Philippine Society of Mechanical Engineering (PSME) Code shall be applied as a minimum requirement.

1244: Construction:

1. Power piping shall be designed to be of sufficient strength suitable for their intended use.
2. Power pipeline shall be provided with safety and or relief valves, indicating and controlling devices to ensure their safe operation. The safety devices shall be accessible, installed and maintained in good operating condition.
3. The discharge capacity of safety valves provided on power pipelines shall be sufficient for the size and pressure at which the power pipeline is operated.
4. Outlets of safety valves on power pipeline shall be installed on location so that hazards to personnel shall be avoided.
5. In the absence of appropriate provisions in the PSME Code, the manner of installation of approved pressure relief devices such as rupture discs shall be in accordance with the code of practice for mechanical engineering under the supervision of a professional mechanical engineer.

6. Indicating and recording devices on power pipeline shall be protected against breakage or clogging and shall be clearly visible.
7. Where pressure reducing valves shall be provided on the low pressure side of the reducing valve, in case the piping or equipment on the low pressure side does not meet the requirements for the full initial pressure. The relief of safety valve shall be located adjoining or as close as possible to the reducing valve. The vents shall be of ample size and as short and direct as possible.
8. Pressure gauge in power pipeline shall be installed on the low pressure side of a reducing valve.
9. Flange connections for their respective pressures and temperatures shall conform to the specifications set forth by the PSME Code.
10. Piping lines must be provided with loops and bends and expansion joints to avoid:
 - a. failure because of excessive stresses;
 - b. excessive thrusts or moments at connected component; or
 - c. leakage at joint because of expansion of the pipe.
11. Welding in power piping lines whether in the shop or at the job site must be done by qualified welders.
12. All power pipelines shall follow the standard color code as required in Rule 1230 of the Occupational Safety and Health Standards.
13. All power pipelines shall have appropriate supports or hangers and guard provision against bumps.
14. All other provisions on bolting, flanges, fittings, gaskets, hangers, supports, anchors, pipe sleeves, drains, drips and steam traps requirement in the power pipeline shall be in accordance/conformity with the provisions in Chapter 11 (Power Piping System) of the PSME Code as a minimum requirement.

1245 : Non-Destructive Test:

All newly installed and repaired pipelines are required to be subjected to a random Non-Destructive Testing prior to its operation, by either Radiographic Examination (RT) or Ultrasonic Test (UT).

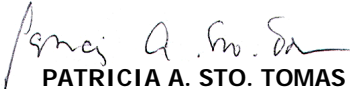
1246 : Hydrostatic Test:

After installation, all piping line connection shall be hydrostatically tested and shall observe the following:

- a. The ends of the pipelines and any equipment are blanked off, such as, pressure reducing valve diaphragms is removed or protected to avoid over pressure.
- b. Applied hydrostatic test is equal to 1.5 times the service operating pressure for a minimum of 24 hours for new installation and 4 hours for existing repaired/installation.

For strict compliance of all concerned

Manila, Philippines, December 18, 2001


PATRICIA A. STO. TOMAS
 Secretary

RULE 1410 CONSTRUCTION SAFETY

1411: Definitions:

When used in this Rule, the following shall have their meanings except when otherwise provided:

- (1) "*Sheathing*" shall mean the vertical member of shoring and timbering which directly resists pressure from side of an excavation.
- (2) "*Wale*" shall mean the longitudinal member of shoring and timbering which directly resists pressure from sheating.
- (3) "*Strut*" shall mean the transverse member of shoring and timbering which directly resists pressure from sheating or wales.
- (4) "*Scaffold*" shall mean a temporary structure of timber or metal work with a platform used in the construction, alteration or demolition of a building, or other maintenance work used to support workers or to allow the hoisting and lowering of workers, their tools and materials.
- (5) "*Standard or Upright*" shall mean the vertical member of scaffold transmitting the load to the ground or to a base plate.
- (6) "*Ledger or Stringer*" shall mean a scaffold bracing, which extends horizontally from standard to standard forming right angles with the putlogs and forms a tie between the standards.
- (7) "*Putlogs*" or "*Bearer*" shall mean a scaffold member spanning between a ledger and a building wall or between two ledgers upon which the platform rests.
- (8) "*Brace*" shall mean a scaffold member that holds standards or uprights in a fixed position to prevent any lateral movement.
- (9) "*Single Scaffold*" shall mean a platform supported by a single row of uprights or standards tied along the wall, connected horizontally by a ledger and supporting putlogs which rests on ledger on one side and in holes left in walls on the other.
- (10) "*Double Scaffold*" shall mean a platform supported on two rows of uprights or standards parallel to the wall of a building connected by horizontal ledgers and is independent from the building wall.
- (11) "*Suspended Scaffold*" shall mean a scaffold suspended by means of ropes or chains capable of being lowered or raised by winch, pulley, block or such other means.
- (12) "*Trestle Scaffold*" shall mean scaffolds in which the supports for the platform are step ladders, tripods or similar movable contrivances.
- (13) "*Hoist*" shall mean a lifting machine with a carriage, platform or cage which moves on guides.
- (14) "*Lifting Appliance*" shall mean a crab, winch, pulley block or gin wheel used for raising or lowering a hoist crane, sheer legs excavators, draglines, pile driver, or pile excavators.
- (15) "*Lifting Gear*" shall mean a chain sling, rope sling, ring, link, hook, shackle, swivel or eyebolt.
- (16) "*Mobile Crane*" shall mean a crane capable of traveling under its own power.
- (17) "*Plant or Equipment*" shall include any plant equipment gear, machinery, apparatus or appliances, or any part thereof.

1412 : General Provisions

1412.01 : Health and Safety Committee:

At every construction site there shall be organized and maintained a Health and Safety Committee conforming with Rule 1040 and a medical and dental service conforming with Rule 1960.

1412.02 : Alternative Methods and Materials:

In the application of this Rule, the construction, composition, size, and arrangement of materials used may vary provided that the strength of the structure is at least equal to that herein prescribed.

1412.03 : Electrical:

Before any construction is commenced, and during the construction, steps shall be taken to prevent danger to the workers or operating equipment from any live electric cable or equipment either by rendering the cable or apparatus electrically dead or by providing barriers to prevent contact.

1412.04 : Machine Guarding:

All moving parts of machinery used shall be guarded in accordance with the requirements of Rule 1200.

1412.05 : Fire Protection:

- (1) Fire Protection equipment shall be, provided in accordance with the requirements of Rule 1940.
- (2) Permanent stand pipe installed in a construction site shall:
 - a. be installed progressively as the construction work proceeds.
 - b. be provided with a valve at every hose outlet.
 - c. have a hose outlet to which is connected a hose that is:
 - i. at least 4 cm. (1 1/2 in.) in diameter,
 - ii. equipped with a combination straight stream and fog nozzle, and
 - iii. installed in all storeys in locations where every part of the building shall be protected by a hose having a length of not more than 25 m. (75 ft.)
 - d. have a connection of the size used by the local fire department:
 - i. located on the street side not more than 1 m. (3 ft.) and not less than 0.33 m (1 ft.) above the ground level.
 - ii. to which there must be a clear access at all times, and
 - iii. protected from mechanical damage.

1412.06 : Lighting of Work Areas:

Every work-area and approach thereto, every place where raising or lowering operations with the use of a lifting appliance are in progress, and all openings dangerous to workers, shall be lighted with the minimum requirements provided in Rule 1210.

1412.07 : Lifting of Weights:

For continued lifting, a male worker shall not be made to lift, carry or move any load over fifty kilograms (50 kgs.) and female workers over twenty-five kilograms (25 kgs.). Weights over these shall either be handled by more than one worker or by mechanical means.

1412.08 : Pipelines:

Repair work on any section of a pipeline under pressure shall not be undertaken until the pipeline is released of the pressure or the section under repair is blocked off the line pressure to ensure that no worker will be endangered.

1412.09 : Protection of the Public:

A safe covered walkway shall be constructed over the sidewalk for use by pedestrians in a building construction work less than 2.3 m. (7 ft.) from a sidewalk or public road.

1412.10 : Protection from Falling Materials:

- (1) Steps shall be taken to protect workers from falling materials, such as the provision of safety helmets and safety shoes.
- (2) Tools, objects and materials (including waste materials) shall not be thrown or tipped from a height, but shall be properly lowered by crane, hoist or chutes. If such is not practicable, the area where the material is thrown or lowered shall be fenced and no person allowed in the fenced area.

1412.11 : Protruding Nails and Loose Materials:

- (1) Material or lumber with protruding nails shall not be used in any work or be allowed to remain in any place where they are a source of danger to the workers.
- (2) Loose materials shall not be placed or left on working platforms, gangways, floors or other workplaces but shall be removed, stacked or stored not to obstruct passage. Materials shall not be stacked in a manner causing danger to the workers or overload and render unsafe any platform, gangway, floor, roof or other part of a building or structure.

1412.12 : Protection against Collapse of Structure:

- (1) All temporary structure shall be properly supported by the use of guys, stays, and other fixings necessary for stability during construction.
- (2) Where construction work will likely reduce the stability of an existing or adjacent building shoring shall be undertaken to prevent the collapse or fall of any part of the structure.

1412.13 : Safe Means of Access:

Safe means of access and egress shall be provided and maintained to and from every place where work is undertaken.

1412.14 : Storage of Materials:

- (1) Building materials and equipment shall not be placed or stored on a permanent or temporary structure exceeding its safe load carrying capacity.
- (2) Lumber structural steel and similar building materials shall be properly stored and secured against collapsing or tipping. Cross pieces shall be used in a pile of lumber more than 1 m. (3 ft.) high.
- (3) Pipes and reinforcing steels shall be stacked in racks or frames supported to prevent movement.
- (4) Gangways and platforms shall not be used as storage for materials and tools.

1412.15 : Storage of Cylinders:

Compressed gas cylinders shall be stored in upright position protected against heat and overturning and when not in use, the control valves shall be covered by protective caps screwed to proper positions.

1412.16 : Traffic Control:

In construction sites where a worker's safety is likely to be endangered by a vehicular traffic, flagmen, warning signs, barriers or lane control devices shall be installed.

1412.17 : Vehicular Loading:

No person shall remain on or in a vehicle during loading or unloading except those required to be there and only when all necessary protection against hazards are provided.

1412.18 : Vehicle Driving:

No person shall operate any vehicle or equipment in a construction site unless he has adequate training and experience to operate such vehicle or equipment and is authorized by his immediate supervisor.

1412.19 : Internal Combustion Engine:

No internal combustion engine shall be operated in an enclosed area unless:

- (1) the exhaust gases or fumes are discharged directly outside to a point where the discharge gases or fumes cannot return to the enclosure.
- (2) the place is ventilated to protect workers from exhaust gases.

1412.20 : Personal Protective Equipment:

Personal Protective equipment as required in Rule 1080 shall be provided the workers.

1412.21 : Other Standards:

The provisions of this Rule are minimum requirements and any other regulation of other government authority of the same nature but with higher numerical values prevail.

1413 : Excavation:

1413.01 : Shoring and Timbering:

- (1) The walls of every excavation over 1 m. (3 ft.) deep shall be supported by adequate shoring and timbering to prevent collapse, provided that this shall not apply to an excavation:
 - a. in which a worker is not required to enter for any purposes.
 - b. cut in solid rock.
 - c. the walls are sloped to forty-five degree (45) angle from the vertical or cut to the angle of repose.
 - d. in which a worker is engaged in timbering or other work for the purpose of compliance with this Rule if precautions are taken to ensure his safety.
- (2) Shoring or timbering in excavation over 6.6 m. (29 ft.) deep and those installed to prevent the movement, collapse of an adjacent structure shall be designed by a structural engineer and approved by the proper authority.

- (3) No excavation in an adjacent building or structure shall be undertaken unless steps are taken to prevent danger to workers.
- (4) Before shoring or timbering, the walls of an excavation shall be stripped of loose rocks or other materials that might slide, roll or fall on workers.
- (5) Every excavation over 1 m. (3 ft.) shall be kept free of water at all times.

1413.02 : Minimum Berm:

- (1) Excavated material shall be kept from the edge of the excavation to provide a clear berm of a distance not less than one third of the depth of the excavation.
- (2) Where the disposal area is limited, a berm of reduced width of not less than 1 m. (3 ft.) may be allowed, provided the materials being excavated are stable, the shoring is designed to carry the additional load, and barriers are provided to prevent roll back of the excavated materials.

1413.03 : Tools Materials and Machinery:

- (1) Tools or materials shall be kept a minimum of 1 m. (3 ft.) away from the edge of the excavation to prevent their being knocked down into the excavation.
- (2) No vehicle or other machinery shall be driven, operated or located near the edge of an excavation at least a distance one-third (1/3) of its depth.

1413.04 : Provision for Barricades.

The top of the walls of an excavation more than 2.0 m. (6 ft.) deep shall be barricaded to a height of at least 1 m. (3 ft.) to prevent the fall of workers.

1413.05 : Means of Access and Escape:

- (1) Every excavation over 1 m. (3 ft.) deep shall be provided with means of access and escape in case of flooding or collapse of the excavation work.
- (2) Every excavation shall have at least one (1) ladder in every 16.6 m. (50 ft.) of length or fraction thereof, of a length, which shall extend at least 0.83 m. (2'6") above the top of the excavation to provide a firm handhold when stepping on or off the ladder.

1413.06 : Inspection and Examination of Excavation:

Every part of an excavation over 2 m. (6 ft.) deep where workers work shall be inspected by the person in charge at least once everyday.

1413.07 : Supervision and Execution of Timbering and other Work:

- (1) Timbering or support for any excavation shall be erected, added, altered or dismantled only under the direction of the project supervisor.
- (2) Timbering and other support for any excavation shall be of good construction, sound materials, and of adequate strength for the purpose for which it is used and properly maintained,
- (3) All struts and bracings shall be properly secured to prevent displacement.
- (4) Timber giving off toxic saps or substance soluble in water shall not be used for timbering.

1413.08 : Harmful Dust, Gases, Fumes:

- (1) When harmful dusts, gases and fumes are present in an excavation to such a degree hazardous to the safety and health of the workers, all measures shall be taken either by exhaust ventilation or by other means to free the area of such contaminants.
- (2) Internal combustion engine shall only be operated in an excavation when provision is made to ensure that the exhaust gases and fumes are rendered harmless or discharged to a point away from the excavation.

1413.09 : Sizes and Spacing of Members:

Sheating shall not be less than 5 cm. x 15 cm. (2" x 6") in section, wales not less than 10 cm. x 15 cm. (4"x 6") in section and struts not less than 10 cm. x 15 cm. (4" x 6") in section; the length, section and spacing of timbering members shall be designed considering the nature of soil, depth and the surroundings.

1414 : Scaffoldings:

- (1) Every scaffold shall be of good construction of sound materials and strength for the purpose for which it is intended.
- (2) Timber used for scaffolds shall be in good condition, the bark completely stripped off, and not painted or treated in any manner that defects cannot be easily seen.
- (3) All materials and parts of scaffold not in use or intended for re-use shall be kept under good condition and separate from other materials unsuitable for scaffolds.
- (4) Timber/bamboo scaffoldings shall be limited to a height of 20 meters from the ground or base provided that, over a height of 10 meters, the scaffolding and all other installations constructed over the scaffolding shall be designed by a structural engineer and duly approved by the appropriate authority.
- (5) At heights over 20 meters, structural metals should be used designed by a structural engineer and duly approved by the appropriate authority;
- (6) Structural steel when used as load bearing members of scaffolding shall be destressed at welded or bent joints and design construction approved by the proper authority.

1414.01 : Maintenance of Scaffoldings:

- (1) All scaffolds shall be properly maintained and every part shall be kept, fixed and secured in position to prevent displacement.
- (2) No partly dismantled scaffold shall be used unless it is rendered stable, strong and safe for the purpose.
- (3) Scaffoldings left standing for four (4) months shall not be used until damaged members are replaced and the whole structure returned to its original strength.

1414.02 : Supervision and inspection of Scaffoldings:

- (1) Scaffold shall be erected, added, altered or dismantled only under the supervision of the person in charge of the construction.
- (2) All materials used in any scaffold shall be inspected before use.
- (3) Lumber with two (2) nail holes aligned crosswise or four (4) nail holes along its length shall not be used as horizontal load bearing member of scaffolds.

1414.03 : Strength and Stability of Scaffolds:

Every scaffold shall:

- (a) be capable of supporting twice the maximum load to which it may be subjected without exceeding the allowable unit stresses of the materials used;
- (b) have all standards diagonally and horizontally braced to prevent lateral movement; and
- (c) have no splices between the points of support of horizontal members and secured to prevent lateral movement.

1414.04 : Construction of Timber Scaffolds:

- (a) In single scaffold, the standard shall be placed at 1.18 to 2.43 meters (4 to 8 ft.) apart at a distance of 1 m. (3 ft.) from the wall, connected horizontally by ledgers spaced vertically at 1.51 m. (5 ft.) to 1.81 m. (6 ft.) on centers. Putlogs shall be placed in the holes left in the walls.
- (b) The size of the standard shall not be less than 8.9 cm. (3 in.) in diameter or its equivalent and when it is necessary to extend a standard, the overlaps shall not be less than 60 cm. (23 in.),
- (c) In double scaffold, the outer row shall be at a distance of 1.22 to 1.32 m. from the wall. The putlogs shall rest entirely on the ledgers. In addition to the diagonal braces, inclined supports shall be provided to prevent the scaffold from leaning away from the wall. The supports shall be strutted at intermediate heights against the standards.
- (d) The size of the standards for double scaffold shall not be less than 10 cm. in diameter or its equivalent and when it is necessary to extend a standard the overlap shall not be less than 15 cm.
- (e) Ledgers, standards and putlogs shall be securely fastened by bolts, dogs, or ropes.
- (f) The distance between two consecutive putlogs shall be designed with due regard to anticipated load and the nature of the platform flooring. As a minimum rule, the spacing shall be as follows: for 3.2 cm. thick planks, spacing shall not exceed 1 m. for 3.8 cm. thick planks spacing shall not exceed 1.5 m.
- (g) The displacement of the foot of the standard shall be prevented either by sinking it into the ground or by fixing it on a base plate.

1414.05 : Types of Scaffolds:

(1) Traveling scaffold shall:

- (a) be of stable construction and weighted at the base to prevent overturning,
- (b) be used only on firm and even surface,
- (c) be securely braced,
- (d) not be moved when any worker is on the scaffold,
- (e) be moved only from or near the base,

(2) Suspended scaffold shall not be used unless:

- (a) the fixed support or outriggers to which it is attached are capable of supporting at least four (4) times the maximum load to which they may be subjected without exceeding the allowable unit stresses of the material used;

- (b) the platform is at least 25 cm. wide, suspension points shall not be more than 3 m, apart, and provided with devices to keep the platform at a distance from the wall to allow working in sitting position.
 - (c) when suspended scaffold is raised or lowered, it shall have rope pulls equipped with pulley blocks, and mechanical hoisting equipment with a positive device to prevent the scaffold from falling freely.
- (3) cantilever, jib, figure and bracket scaffolds:
- (a) every cantilever or jib scaffold shall be properly supported, fixed and anchored on opposite side of the supports, have outrigger of designed strength and properly strutted or braced to ensure rigidity and stability.
 - (b) Figure or bracket scaffold shall not be supported or held by dogs, spikes or similar fixing devices that will pull out.
- (4) Skips, brackets, boatswain chair:
- (a) Skip, bracket, basket and boatswain chair shall not be used as substitute for a suspended scaffold unless the work is of such short duration and the work is under the supervision of the person responsible for the construction.
 - (b) No skip, bracket, or basket shall be used as a suspended scaffold unless it is:
 - i. at least 76 cm. deep and
 - ii. either constructed of metal or carried by two strong bands of metal fastened around the sides and bottom.
- (5) Ladder Scaffolds or Ladder jack Scaffolds:
- A ladder scaffold shall be used only when:
- (a) the work is of such light nature and the material required for the work is light and can be hung on the ladder.
 - (b) the distance between the ladders of the scaffold is less than 3 m.
- (6) Trestle Scaffolds:
- (a) Trestle scaffolds shall not be used if the working platform is more than 5 m. from the ground or floor or other surface upon which the scaffold is erected.
 - (b) A trestle scaffold shall not be erected on a scaffold platform unless:
 - i. the platform is sufficiently wide for the transport of materials,
 - ii. the uprights are firmly attached to the platform and braced to prevent displacement, and
 - iii. designed by structural engineer and approved by the proper authority if erected on a scaffold 10 meters or over in height.
 - (c) No trestle scaffold shall be erected on suspended scaffold.
- (7) Outrigger Scaffold:
- An outrigger scaffold shall have:

- (a) its platform within 8 cm. from the wall and
 - (b) shall have outrigger secured against horizontal and vertical movements.
- (8) Bamboo Scaffold:

Bamboo scaffold may be used for painting or light construction work constructed and maintained.

- (a) the material and construction shall be sufficient to carry at least four (4) times the imposed load,
- (b) only one worker shall be allowed in any one span;
- (c) the maximum span between posts shall be 266 cm. (8 ft.)
- (d) when the height or fall is over 6.6 m. (20 ft.), the use of safety belt shall be required;
- (e) when erected over a height of 10 meters (30 ft.), the design shall be by a structural engineer approved by the proper authority and construction shall be under expert supervision, and
- (f) the maximum height allowed is 20 meters (60 ft.)

1414.06 : Platform, Runways, Ramps and Stairs:

- (1) All working platforms, runways and ramps from which workers are liable to fall a distance of more than 2 m. (6 ft.) shall be:
 - (a) for platform with minimum width of 70 cm. (28 in.) the runways and ramp shall be 45 cm. (18 in.) and if runways are used for the passage of materials, the width shall not be less than 70 cm. (28 in.).
 - (b) provided with strong guard rails up to a height of 91 cm. (35 in.) above the working surface and toeboards of at least 20 cm. (8 in.) in height.
- (2) The following shall be the minimum width of platform for various types of scaffolds:
 - (a) When the platform is not more than 2 m. (6 ft.) above the ground floor:
 - i. for painters, decorators and similar types of workers, 30 cm. (12 in.);
 - ii. for all other types of workers and tools, 50 cm. (20 in.)
 - (b) When the platform is more than two 2 m. (6 ft.) above the ground or floor:
 - i. for men, tools and materials, 1 m. (3 ft.)
 - ii. for men, tools, materials and vehicles, 1.5 m. (5 ft.)
- (3) Every platform, runway, ramp or stairs shall be kept free from any obstruction, materials, rubbish and projecting nails. When they become slippery due to the nature of work, steps shall be taken by way of sanding, cleaning or by any other means to roughen the surface.
- (4) Supporting members used in the construction of platforms, runways, ramps and stairs shall be securely fastened and braced. The supporting members shall be placed in a firm and rigid foundation to prevent lateral displacement.

- (5) The uniformly distributed minimum design load of platform, runway, ramp or stair shall be 650 kg./sq.m. (133 lbs./sq. ft.). The stress due to concentrated loads at any point in the floor shall not exceed those caused by the uniformly distributed load used in the design. Planking used shall not be less than 3 cm. (2 in.) thick.
- (6) A scaffold platform shall not project beyond its end support to a distance exceeding four (4) times the thickness of the plank, unless secured to prevent tipping.
- (7) All planks, platforms, runways and ramps shall be fixed and supported to prevent sagging and moving.
- (8) Slope of runway or ramp shall not exceed 2 in 3.
- (9) When the slope of runway or ramp requires additional foothold using stepping laths, they shall:
 - i. have a minimum section 5 x 8 cm. (2 in. x 3 in.) placed at maximum intervals of 46 cm. (18 in.) on centers;
 - ii. extend to the full width of the runway or ramp except that they may be interrupted over a width of not more than 10 cm. (4 in.) to facilitate the passage of barrows.

1415 : Construction Equipment:

1415.01: Lifting Appliances:

- (1) Every lifting appliance including working gear and all other plant equipment used for anchoring or fixing shall:
 - a. be of good mechanical construction, of sound material and adequate strength for the load it will carry;
 - b. be properly maintained and inspected at least once a week and the result of such inspection shall be recorded in a log book maintained by the employer or user of the equipment, open to enforcing authority.
- (2) Any anchoring or fixing arrangement provided in connection with a lifting appliance shall be adequate and secure to hold the imposed load.

1415.02 : Brake Controls and Safety Devices:

- (1) Every crane, crab and winch shall be provided with a brake to prevent the fall of the load and to control operation when the load is lowered.
- (2) Every handle or lever of a lifting appliance provided for controlling its operation shall be provided with suitable locking arrangement to prevent its accidental movement.
- (3) Every lever or handle provided for controlling the operation of a lifting appliance shall have upon it clear marking to indicate purpose and mode of operation.

1415.03 : Protection of Crane Driver:

- (1) Platform for crane drivers and signalers shall be:
 - (a) of sufficient area,
 - (b) closely planked, plated and
 - (c) provided with safe means of access and egress.

- (2) Every side of a platform more than 2.16 meters (6.5 ft.) high shall be provided with guard rails and toeboards.
- (3) The driver of every power driven lifting appliance shall be provided with a cabin which shall:
 - (a) afford protection from the weather and falling objects, and
 - (b) be constructed to afford ready access to operating parts of the lifting appliance within the cabin and shall be periodically inspected and maintained.

1415.04 : Anchorage and Load Test of Cranes:

- (1) When lifting appliances are used on soft or uneven ground or on a slope, adequate measures shall be taken to ensure their stability or undue movement.
- (2) No crane shall be used for raising or lowering loads unless:
 - (a) it is securely anchored;
 - (b) adequately balanced by a weight properly placed and secured ;
- (3) Every crane after erection altered or any kind of change shall be tested by the contractor/ supervisor with the imposition either:
 - (a) of a load of twenty-five per cent (25%) above the maximum load to be lifted by the crane as erected at the position when the maximum pull is applied on each anchorage, or
 - (b) of lesser load arranged to provide an equivalent test of the anchorages or balancing arrangements.
- (4) A report of the test shall be recorded in a log book to be maintained by the employer.
- (5) The maximum load allowed shall be affixed in a place where it can be readily be seen by the crane operator.
- (6) No crane shall be used or erected under conditions likely to endanger stability.

1415.05 : Drums and Pulleys:

Every chain or rope that terminates at the winding drum of a lifting appliance shall be properly secured thereto and at least two turns or such chain or rope shall remain on the drum in every operating maximum end position of the appliance.

1415.06 : Cranes and Derricking Jibs:

- (1) When the derricking jib of a crane is operated through a clutch, there shall be an effective inter-locking arrangement between the derricking drum in such a way that the clutch cannot be operated unless the pawl is ineffective engagement with the derricking jib and the pawl cannot be disengaged unless the clutch is in effective engagement with the derricking drum. This requirement shall not apply when the derricking drum is independently driven and the mechanism driving the derricking drum is self-locking.
- (2) The hosting mechanism of a crane shall not be used to pull the load sideways unless it is ascertained that no undue stress is imposed on the crane structures and its stability is not endangered.

1415.07 : Crane Operation and Signaling:

- (1) A lifting appliance shall not be operated other than by a person trained, competent, physically fit, and authorized to operate the appliance.
- (2) When the operator of a lifting appliance has no clear and unrestricted view of the load for safe working, there shall be appointed one or more signal men to give the necessary signals to the operator.
- (3) Every signal given for the movement or stopping of a lifting appliance shall be distinctive in character and the person to whom it is given is able to hear or see it easily.

1415.08 : Safe Working Loads:

- (1) Safe working loads shall be plainly marked on every lifting appliance and in case of a crane with variable operating radius, safe load at various radii of the jib shall be marked on the jib displayed in the driver's cabin or fitted with an automatic safe load indicator.
- (2) In every derricking jib, the maximum radius at which the jib may be worked shall be plainly marked on it.
- (3) No lifting appliance shall be loaded beyond its safe working load.

1415.09 : Guy Derrick Cranes:

- (1) The jib of guy derrick cranes shall not be erected between the back stays of the crane.
- (2) Measures shall be taken to prevent the foot of the king post of any derrick crane from being lifted out of its socket.

1415.10 : Testing and Examination of Lifting Appliances:

- (1) No lifting appliance shall be used unless it has been tested and examined thoroughly initially and every year thereafter by a competent person by way of his training and experience in such work.
- (2) No lifting appliance which has undergone substantial alteration or repair affecting its strength or stability shall be used unless it is tested and thoroughly examined by a competent person.

1415.11 : Hoist:

Every hoistway shall be efficiently protected by enclosures and when access to the hoist is necessary, it shall be fitted with gates. Such enclosures and gates shall extend to 2.16 m. (6' 6") except when lesser height is sufficient to prevent the fall of persons and where there is no risk of any worker coming in contact with any moving part of the hoist, but shall in no case be less than 2.16 m. (6' 6").

1415.12 : Marking of Safe Working Loads on Hoist:

The safe working load or the number of persons that can be carried in a hoist shall be plainly marked on every platform or cage of the hoist. A notice prohibiting overloading of the hoist shall be placed on the platform or cage of the hoist.

1415.13 : Operation of Hoist:

- (1) Hoist for the carriage of goods and materials shall be of such construction that it is operated outside of the cage unless the doors of the cage and the enclosure are of the interlocked type.

- (2) Hoist for the carriage of persons shall have the doors of the cage and enclosure of hoistway of interlocked type and the cage completely covered and fitted with overrun devices.

1415.14 : Carriage of Persons by Means of Lifting Appliances:

No person shall be raised, lowered or carried by a power driven lifting appliance except:

- (1) on the driver's platform in case of a crane or a hoist, or
- (2) on an approved suspended scaffold, or
- (3) when the use of hoist or suspended scaffold is not reasonable, provided that:
 - (a) the appliance can be operated from one position only;
 - (b) the winch used is so constructed that when control lever or switch is not held in operating position, brake is applied and disengages from pawl and ratchet gears; and
 - (c) no person is carried except in:
 - (i) a chair or cage, or
 - (ii) a safe skip or other receptacle at least 1 m. (3 ft.) deep, and
 - (iii) measures are taken to prevent the chair, cage, skip or receptacle from spinning or tipping in a manner dangerous to any occupant.

1415.15 : Test and Examination of Hoists:

- (1) After erection or alteration, every hoist shall be tested and examined every six (6) months by a competent person and the result of such tests and examination shall be recorded in a logbook maintained for the purpose.
- (2) The logbook shall be made available for inspection by the enforcing authority.

1415.16 : Chains, Ropes and Lifting Gears:

- (1) No chain, rope or lifting gear shall be used unless:
 - (a) it is of good construction, sound material, of adequate strength, suitable quality and free from potent defects.
 - (b) it has been tested and examined by a competent person specifying the safe working load.
- (2) No wire rope shall be used for lifting and lowering of any load if in any 10 meters length the total number of visible broken wires exceed five percent of the total number of wires in the rope.
- (3) No chain, rope or lifting gear shall be loaded beyond its safe working load except for the purpose of testing.
- (4) No chain, ring hook, link, clamp, shackle, swivel or eyebolt altered or repaired by welding shall be used unless it is tested and examined and its working load specified in the test.
- (5) Hooks for lifting or lowering of load shall have devices to prevent displacement of sling or load.
- (6) No double or multiple sling shall be used if the upper ends are not connected by means of shackle, ring or link of adequate strength or the safe working load is exceeded.
- (7) Chains with knots or chains shortened by means of bolts and knots inserted through the links or by welding shall not be used.

- (8) No chain, rope or lifting gear shall be used unless it is thoroughly examined by a competent person at intervals of six (6) months and the result of examination recorded in a log book maintained for the purpose open for inspection by the enforcing authority.
- (9) A chain or lifting gear shall not be used unless it is annealed or heat treated as required by the manufacturer.

1416 : Plant and Equipment:

- (1) When the operator of a power driven crane, shovel forklift truck, front end loader and similar machinery is exposed to overhead hazards, a cab, screen or other overhead protection shall be provided.
- (2) When any equipment or part thereof is being dismantled, or repaired and a worker maybe endangered by the collapse or movement of the equipment, blocking shall be installed to prevent collapse or movement.
- (3) When a worker is endangered by the rotation or uncontrolled motion of a load being hoisted by a crane or similar hoisting machine, one or more guide ropes or tag lines shall be used to prevent rotation on uncontrolled motion.
- (4) A friction type clamp used in hoisting materials shall be constructed in a manner that accidental slacking of the hoisting cable will not release the clamp.
- (5) When the operator of a shovel or similar machine is obstructed in the view of the path of travel of any part of the shovel or similar machine, one or more signal men shall assist the operator by:
 - (a) keeping that part of the shovel or similar machine under observation when it is out of view of the operator, and
 - (b) communicating with the operator using prearranged signals or where these signals are impracticable, by audible communication system.
- (6) Every lifting jack shall:
 - (a) have its rated capacity legibly cast or stamped in plain view on the jack, and
 - (b) be equipped with a positive stop to prevent over travel or where a positive stop is impracticable, it shall be provided with a device indicating maximum allowable travel.
- (7) Where a vehicle, crane, machine or other equipment is driven in reverse in a location where a worker or the operator may be endangered, operation shall be directed by another worker who shall be stationed in full view of the operator and the path of travel.
- (8) An unattended vehicle parked on sloping ground or adjacent to an excavation shall have its brakes applied and the wheels blocked to prevent movement.
- (9) A hose supplying steam or air to a hammer or a pole driver or to a drill carriage shall have attached thereto a wire, rope or chain to prevent the hose from whipping.
- (10) Piles or sheet piling shall be adequately supported at all times during hoisting, phasing, removal or withdrawal and no worker who is not directly engaged in such operation shall be in the area where the operation are being carried out.

1417 : Demolition:

1417.01 :

All demolition operations of building or other structure over six (6) meters high shall be under supervision of a competent person. No person except the workers who are directly engaged in the demolition shall enter a demolition area to within a distance equal to 1 1/2 times the height of the structure being demolished, where this distance is not possible the structure shall be fenced around and no unauthorized person shall be allowed within the fenced area.

1417.02 : Demolition Work:

- (1) On every demolition work, danger signs shall be posted around the structure and all doors and opening giving access to the structure shall be kept barricaded or guarded.
- (2) Demolition work shall not commence until:
 - (a) all necessary steps have been taken to prevent injury to any person or damage to adjoining property, and
 - (b) all existing gas, electrical and other services likely to endanger a worker shall have been shut off or disconnected.
- (3) Prior to demolition all glass shall:
 - (a) be removed from windows and other locations, or
 - (b) otherwise shall be protected so that there is no possibility of breakage at any stage of the demolition.
- (4) Shoring or other necessary measures shall be taken to prevent the accidental collapse of any part of the building or structure being demolished or any adjacent building or structure endangering the workers.
- (5) Demolition shall proceed systematically, storey by storey, in a descending order and the work on the upper floors shall be completely over before removing any of the supporting members of the structure on the lower floor. This shall not prohibit the demolition on section, in the same descending order if means are taken to prevent injury to workers and damage to property.
- (6) All precautions shall be taken to avoid damage from collapse of a budding being demolished or any part of it when any part of the framing is removed from a framed or partly framed building.
- (7) No building or any part of the structure shall be overloaded with debris or materials to render it unsafe and hazardous to persons working.
- (8) Adequate precautions shall be taken to avoid danger from any sudden twisting, springing or collapse of any steel or ironwork cut or released.
- (9) No workers shall stand on top of wall, pier or chimney more than six (6) meters (18 ft.) high unless safe flooring or adequate scaffolding or staging is provided on all sides of the wall, three (3) meters (9 ft.) away from where he is working.
- (10) A truss, girder, or other structural member shall not be disconnected until it has been:
 - (a) relieved of all loads other than its own weight, and
 - (b) provided with temporary supports.

- (11) Stairs and stair railings, passageways and ladders shall be demolished last.
- (12) When demolition is suspended or discontinued all access to the remaining part of the building shall be fenced or barricaded.

1418 : Mechanical Demolition:

The demolition area where work is done by mechanical devices such as weight balls or power shovels shall:

- (a) be barricaded for a minimum distance of 1 1/2 times the height of the structure.
- (b) not allow entrance of unauthorized persons.
- (c) arranged and maintained so the mechanical devices used shall not cause any damage to adjacent structures, power lines or public road.

1419 : Explosives:

1419.01 : Supervision:

- (1) A competent person shall be appointed in charge of and personally present at a blasting operations who shall supervise the fixing of all charges and other blasting, activities.
- (2) The names of persons designated to handle, transport, prepare or use dynamite or other high explosives shall be posted in the field office and on or in the magazine.
- (3) No person inexperienced in handling dynamite or other high explosives shall handle, transport, prepare or use dynamite, unless the inexperienced person work under the personal supervision of a person with experience in blasting operations.
- (4) A record of explosives received and used shall be properly maintained and open for inspection by the enforcing authority.

1419.02 : Blasting:

- (1) Only the quantity of dynamite required for immediate use in blasting of a part of a building or other structure shall be removed from the magazine.
- (2) No holes shall be drilled:
 - (a) within 3.3 m. (10 ft.) of a hole containing explosives or blasting agents;
 - (b) within 6.6 m. (20 ft.) of a hole being loaded with explosives or blasting agents.
- (3) Every firing circuit in connection with blasting operations shall be broken in a suitable manner at a safe distance from the blasting area.
- (4) When a charge is fired, steps shall be taken to see that persons employed are in a position free from the explosives or from flying objects.
- (5) The applicable provisions of Rule 1140 shall also apply to the use, handling, and storage of explosives in construction industry.

RULE 1420 LOGGING

1421 : General Provisions:

- (1) Every employer in the logging industry shall organize a safety committee in accordance with Rule 1040.
- (2) Medical and dental services shall be provided in every workplace where logging operation is in progress in accordance with Rule 1960.
- (3) All persons in charge of a work group or gang shall be trained first aiders.
- (4) At every worksite there shall be provided adequate communication system and transportation in order to bring an injured person to a clinic or hospital for proper medical care.

1422 : Handtools:

- (1) Handtools shall be well maintained, restricted to the use for which they are intended and shall be issued to and used only by workers required and trained to use such tools.
- (2) Impact tools which have mushroomed more than 0.6 cm. from the body of the tool shall be repaired or replaced.
- (3) Only spikes or needles of the right quality, size and condition shall be used for splicing.
- (4) Blasting or the use of powder actuated tools shall only be done by duly trained and authorized workers.

1423 : General Logging Operations:

- (1) No work shall be started or continued in timbered areas during periods of high winds, extremely heavy fogs and other hazardous weather conditions, or when vision is impaired by darkness unless adequate lighting facilities are provided.
- (2) Safety shoes, hard hats and other protective equipment shall be provided by the employer when warranted by the type of work and by the hazards in which the workers are exposed.
- (3) Non-slip materials shall be installed on all decks of machinery or equipment used by the workers in the performance of their duties.
- (4) Imbedded metals or spikes shall be removed from logs before they are sent to the mills.
- (5) After each shift or work period, a system to account for all workers returning from the woods shall be established and a daily report of these submitted to the immediate supervisor.
- (6) All snags dangerous to any operation or activity shall be felled.
- (7) Blocks, straps, clevises, lugs, lines, riggings, boilers, prime movers and other similar equipment shall be thoroughly inspected and the necessary repairs or replacement made before they are put to use. Only clevises or shackles of a screw pin or lock nut type shall be used for connections. Moving blocks shall be well greased.
- (8) Cross cut or drag saws shall have the teeth shielded while being transported.
- (9) Riding on rigging equipment is prohibited.

- (10) All lines, block, loading and yarding equipment shall be of sufficient strength to safely withstand all imposed strains.
- (11) Servicing of fuel tanks of gasoline fed equipment shall be done in an approved manner and no gasoline shall be handled in open containers. There shall be no open light or fire within 30 m (100 ft.) from the equipment during refueling or loading of gasoline or other flammable substances.
- (12) Logging cars or trains carrying passengers shall not carry gasoline over 19 liters (5 gal.) outside of the regular fuel supply tank. The allowable quantity shall be carried in especially made container with tight screw covers. Smoking or open lights shall not be allowed in cars carrying gasoline or other flammable substances.
- (13) Logging trains carrying passengers shall not be coupled immediately behind or in front of logging trains carrying gasoline over 19 liters (5 gal.).
- (14) Fellers shall be so located that they will not endanger other workers. In steep logging sites, one set of fellers shall not be located immediately on the slope from other fellers. Fellers shall not be allowed to work alone. The head feller shall at all times know the location of other workers and passing persons.
- (15) When felling trees near a railroad trail or motor road, traffic shall be controlled to prevent accidents.
- (16) Spring boards or chopping platforms shall be so designed to safely carry all workers and equipment and all wood materials used therein shall be sound and straight grained lumber.
- (17) Before felling a tree, a way of escape shall be determined and this way shall be arranged and kept clear of any obstruction to permit a quick get-away of all workers.
- (18) Undercuts shall be about 1/3 of the diameter of the tree. Two horizontal undercuts shall not be allowed unless the tree is sniped.
- (19) After a back-cut is started, a tree shall not be left standing under any circumstances.
- (20) The head feller shall warn all workers in the vicinity of a tree to be felled, indicating the direction of the fall and taking notice that all persons in the vicinity are out of reach of the falling tree or other trees which may be struck by the falling tree.
- (21) All logs liable to roll while bucking shall be propped and the props shall be removed only after the logs are moved away.
- (22) If there is danger in cutting through a log while bucking, a safe margin shall be left and the log distinctly marked to warn the rigging man.

1424 : Use and Maintenance of Power Saws:

- (1) Power saws shall be stopped when moved from tree to tree, adjusted or when the tree starts to fall
- (2) The idler end of the bar of chain saws shall be adequately guarded.
- (3) Every power saw shall be provided with a deadman grip.
- (4) Every power saw shall be provided with a clutch which shall be maintained in good operating condition.
- (5) Every electric power saw shall be grounded and provided with a shut off switch.
- (6) All electric cables of power equipment shall be disconnected during transfer from one place to another.

1425 : Logging Engine:

- (1) Only skilled and experienced workers shall be employed as logging engine operators.
- (2) All logging engines shall be provided with sound signaling devices audible to all persons in the vicinity of the logging operations.
- (3) Brake bands, drum and bearings shall be adequate for the type of service in which they are used.
- (4) Ends of lines attached to drums shall be securely fastened. Ends of line over 2.5 cm. (1 in.) shall be rabbitted.
- (5) Sleds of logging engine shall be designed and constructed to withstand moving. They shall be provided with sheds designed and constructed to withstand the whipping action of breaking lines.
- (6) Head blocks and fair-leads shall be fastened with maximum number of four (4) bolts designed with a factor of safety of six (6).

1426 : Logging Engine Operation:

- (1) Sufficient rigging shall be set to avoid jerking of the logging engine. Insecure stumps used to hold the logging engine shall be tied back. Insecure trees used for holds shall be guyed.
- (2) When holds are being changed, the logging engine shall be secured with a separate line if there is danger of it sliding.
- (3) Sufficient rigging shall be used when snubbing logging engines down step grades and during this operation the mainline shall be used for snubbing and the haul back for pulling.
- (4) Only the hook tender and the engine operator shall ride the logging engine when it is moved. A clear way of escape shall be provided for these workers riding in the engine.
- (5) The high climber shall always be within sight or calling distance of another worker. He shall be well equipped with a safety belt, steel spurs, and steel cored climbing rope with an extra set of these equipment reserved in case of emergency.
- (6) Running lines shall not be moved while the high climber is working in the trees except as he directs. All signals shall come from the high climber which shall be received and transmitted by an experienced worker assigned to the job. While the high climber is working in the tree, all other workers shall stay at a safe distance.
- (7) Spar trees shall be provided with pass lines of from 1 to 1.5 cm. in diameter, in good condition without short or eye-to-eye splices or knots, and long enough for the purpose.
- (8) Pass line equipment shall be properly maintained and inspected before placing in the trees. The bearing pin shall be of the type which will positively secure the nuts and pins. The chains shall be of at least 0.6 cm. (1/4 in.) of the best material without cold shuts or wire strands and attached to the end of the pass line with a clevis or ring.
- (9) Spar trees shall be sound and of sufficient diameter to carry out the loads imposed on them. Spar trees used for loading or yarding shall be short enough to be rigid and the top guy wires shall not be more than 30 cm (12 in.) or less than 15 cm. (6 in.) from the top of the spar trees. Spar trees, except those belonging to the first, second or third group of timber shall be barked.
- (10) Guy wires shall not be less than 2.5 cm. (1 in.) in diameter of plow steel or better material in good condition, and shall develop a factor of safety of three (3) under a load that will stall the engine.

- 11) The minimum number of guy lines for logging operations shall be as follows:

OPERATION	TOP GUY	BUCKLE GUY
Logging and Yarding	6	4
Logging and Swinging	6	4
Loading only (head tree)	5	-
Loading only (tail tree)	5	-
Yarding only	5	3
Yarding with sky line		
Head tree	6	4
Tail tree	3	-

- (12) Guy line shall be fastened to spar trees by means of shackles, hooks and slides, or other devices of similar construction equal in strength to the guy lines. The use of loops or wild eyes to attach guy lines is prohibited.
- (13) Shackle pins shall be inserted head up and securely fastened with molles or cotter keys. The "U" part of the shackle shall be around the guy lines and the pins through the eyes. Only sleeve shackles shall be used to hang tree jack.
- (14) Guy lines shall be passed alternately around the spar trees in opposite directions and shall be properly attached to the spar trees to prevent their falling when they are tightened.
- (15) Extensions to the guy lines or sky lines shall only be by regular long splices equal in strength to the lines to which they are spliced or by shackles connecting two spliced eyes tucked at least three (3) times. The shackles used for connections shall have a strength of at least 1 1/2 times the strength of the lines which they connect. Shackles shall not be placed where the lines pass through blocks or travelers.
- (16) Guy lines shall be hung in a tree by jacks and securely anchored to a stump or dead tree. The end of the sky lines shall not be anchored to spar trees.
- (17) Stumps shall be carefully chosen as to position and strength and, if necessary, they shall be tied back. These stumps shall be inspected from time to time during the progress of operation. Standing trees shall not be used as stumps except for holding tail trees in yarding operations.
- (18) The anchor ends of guy or sky lines shall be firmly secured by passing the end lines at least two and one half (2 1/2) turns around the stumps adequately notched to contain the end lines. Where spikes are used to secure the lines, each turn shall be firmly spiked. Where wire rope clips are used, they shall be at least three (3) "U" bolts secured on the dead end of the rope and spaced at approximately six (6) times the diameter of the rope.
- (19) Tightening of guy and sky lines shall be by mechanical power. In removing lines from stumps, the last wrap shall be removed by blasting, otherwise a reverse safety wrap shall be put on and the safety holdbacks shall be used.
- (20) All tree straps shall be of the best material, properly seated and at least larger than the pulling lines.
- (21) All running lines, load blocks, and tree jacks shall be properly hanged to the spar trees. The strength of shackles used to hang blocks and tree jacks shall be not less than two (2) times that of the pulling lines. The shackle pins shall be secured by a nut with a cotter key or wire strand run twice through the pin with the loose ends rolled in.

- (22) Straps of at least double the strength of the running lines shall be used to hang blocks and tree jacks hanged in only one eye. Threaded straps for running lines or swivel type blocks shall not be used.
- (23) Safety straps of at least 2.5 cm. (1 in.) material shall be used on all blocks rigged below the guy lines. The end of the strap shall be securely fastened to the block and the other end to a shackle arranged to slide down on a guy line which will carry the blocks in the direction of least hazard to the workers. Where this arrangement is not possible, safety strap shall be 1.25 cm. (1/2 in.) larger than the pulling lines.
- (24) Spar tree rigging shall be arranged so that the lines will not rub against each other. No block, except pass blocks, shall hang above the top guy lines.
- (25) Blocks used for yarding or swining shall be hung in at least two (2) straps, and each strap shall be of a line equal in strength to the running line.
- (26) Yarding with more than one (1) logging engine at one time in one spar tree is prohibited.
- (27) The angle between the logging engine, the high line block and the yarding or swing line shall not be less than 90°.
- (28) Signals to the engine operator shall be received and transmitted only by a designated worker, except in case of danger, when any one may give the signal. Signals shall be clear and distinct.
- (29) The workers receiving and transmitting signals shall be in a place out of moving lines, logs and other hazards and where he can clearly hear and be clearly heard by the rigging crew.
- (30) Signal system shall be properly installed and maintained in good condition at all times. Signals on logging engines, tractors and other machinery used by yarders shall be audible to the rigging crew.
- (31) Hand signals for yarding and swinging shall only be used in temporary emergencies and only when the worker giving the signal is in plain sight of the logging engine operator but shall never be used for distances more than 9 m. (30 ft.)
- (32) Signals to the yarding operator shall be given only by one member of the yarding crew. When this worker is out of sight, another worker shall be assigned to receive and transmit all signals during swinging operation.
- (33) No log chasing operation shall be made when the logs are swinging. Log chasers shall be sure that the logs are securely landed before unhooking the chokers.
- (34) Logs shall not be loaded or moved while the chasers are working on other logs or until all the workers and equipment are on the clear.

1427 : Tractor Yarding:

- (1) Logs shall not be suspended in arches when tractor yarding is done on slopes of 60° or over. Instead tractor or skid trails shall be constructed and the tractor shall be equipped with blades.
- (2) Sufficient tractor brakes shall be used to hold the machine on any grade over which it is being operated. Holding devices shall be provided on brakes which shall be of a design that will not accidentally release.
- (3) Tractor running boards shall be kept from getting slippery, otherwise they shall be covered with nonslip materials.

- (4) Arches shall be equipped with line guards arranged to prevent a whipping action if the lines break. If a coupling is attached above the drum, it shall be secured by a strap.
- (5) Riding on arches, logs or any part of the tractor, except on the driver's seat, is prohibited.
- (6) Workers shall not stand on the tracks of the logging tractor, except if required by the nature of the work they are doing and only when there is no danger of the tractor moving.
- (7) Movements of tractors around workers shall be regulated by clearly visible and distinct signals which can be understood by the workers.
- (8) Every tractor shall be equipped with a canopy guard designed, constructed and installed to protect the operator from falling trees, side winders, breaking lines and other such hazards. The design shall be such as to allow the driver all visibility possible.

1428 : Line, Blocks, Rigging:

- (1) Second hand or used cables and straps shall not be used until their condition has been established as sufficient to carry the imposed loads.
- (2) Cables or straps which are badly worn, fatigued, kinked, chafed, or damaged beyond point of safety shall be taken out of service or repaired. Cables with 12 1/2% of the wires broken within a distance of one wrap shall not be used.
- (3) The following shall be used in permanently splicing running lines:

ROPE DIAMETER	UNRAVELED
0.638 cm (1/4 in.)	1.52 m.
1.027 cm. (1/2 in.)	2.14 m.
1.905 cm. (3/4 in.)	2.74 m.
2.54 cm. (1 in.)	3.65 m.
3.175 cm. (1 - 3/4 in.)	4.57 m.
3.81 (1 - 1/2 in.)	6.10 m.
4.445 cm (1 - 3/4 in.)	7.65 m.
5.02 cm. (2 in.)	9.15 m.

- (4) Eye splices shall be used in joining long lay ropes.
- (5) Short splices, eye-to-eye splices, cat's paws, knots or molles, or wild eyes shall not be used for permanently joining ropes, except for temporary purposes when rigging.
- (6) Eye splices in all lines shall be tucked 3 times, and 4 times if subjected to heavy strains.
- (7) Blocks and sheaves shall be in proportion to the size, stress and design of the cables used. Sheaves shall be of solid metal or better material. Bearings shall be well oiled.
- (8) All blocks shall be fitted with line guards to prevent fouling. The bearings and pins shall be securely fastened.
- (9) Tree jacks shall be repaired or replaced when the wood they contain becomes insufficient to prevent the lines from rubbing on the bolts.
- (10) High load shackles, sky line shackles, skidders, tower shackles, or swivels subjected to heavy strains not be built up by welding. The strength of shackles used for joining line shall not be less than 1 1/2 times that of the lines they join.
- (11) The spread of the jaws of the high load shackles shall fit the yoke or swivel. High load and rigging shackles, except those of manganese steel, shall be heat treated at intervals.

RULE 1940 FIRE PROTECTION AND CONTROL

1941 : General Provisions:

- (1) All buildings for occupancy used shall be located in areas provided for by applicable zoning regulations of the locality.
- (2) Specific standards in design and construction, occupancy and use of buildings and facilities shall be those prescribed by the Building Code of the Philippines.
- (3) Fire tests of building materials and fire protection equipment used in any place of employment shall be those provided for the Fire Code of the Philippines.
- (4) Standards for the design and installation of Indoor, outdoor general storage, sprinkler system and fire protection system shall be those provided for by Chapter 9 of the Philippine Society of Mechanical Engineers (PSME) Code.

1942 : Definitions:

When used in this Rule, the following unless otherwise indicated, shall mean:

- (1) "*Fire-Rating*" - the time duration that a material shall withstand a standard fire exposure test.
- (2) "*Flash Point*" - the minimum temperature in degrees at which material will give off flammable vapor.
- (3) "*Wood-frame Construction*" - a construction in which wooden frame-work forms the structural support for enclosure walls, floors, and doors.
- (4) "*Slow burning Construction*" - construction consisting of substantial masonry walls and heavy timber interior.
- (5) "*Fire-resistant Construction*" - construction in which all walls, partitions, floors, stairs, roofs, window frames and sashes, doors and other interior finish, consist of fire resistant materials designed to withstand, without collapse during burning of the contents of the building for a specified time.

1943 : Building Construction and Facilities:

1943.01 : Types of Building Constructions:

- (1) The height of buildings used as places of employment shall be as provided in Table 45a.
- (2) Existing buildings not in conformity with Table 45a shall be given five years to comply with the Standards.
- (3) The number of stories provided in Table 45a may be increased by two if approved automatic sprinkler protection is provided. This provision may be applicable to existing buildings if the discrepancy is only in the number of stories.

1943.02 : Segregation:

Processes involving serious explosions and flash-fire hazards shall be located in segregated buildings and only a minimum number of workers required in the process shall be allowed inside at any given time.

1943.03 : Exits:

- (1) At least two exits shall be provided in every floor and basement of every workplace capable of clearing the work area in five (5) minutes.
- (2) Additional exits shall be provided if the travel distance from any occupied space in a high hazard occupancy exceeds twenty-three (23) meters.
- (3) In moderate or low-hazard occupancy, the travel distance shall not be more than thirty-one (31) meters for industrial establishments, sixty-one (61) meters for business establishments and thirty and one-half (30.5) meters for mercantile and commercial establishments.
- (4) If approved automatic-sprinkler protection is installed, the travel distance in high hazard occupancy may be increased to twenty-five (25) meters and for moderate or low-hazard occupancy may be increased to forty-six (46) meters.
- (5) The width of the exits shall be computed by dividing the total occupants of a floor or a storey (maximum allowable) by sixty (60) in industrial and commercial establishments by forty-five (45) in service establishments, and by seventy-five (75) in places of assembly and the quotient multiplied by fifty-five (55) to get the width of the exit in centimeters.
- (6) On every floor, except the ground floor, one of the exits shall lead to an inside stairway or a smokeproof tower, while the other exits shall lead to inside stairways, smoke-proof towers or horizontal exits.
- (7) Slide escapes may be considered as exits in buildings housing high hazard occupancies but these shall not constitute more than twenty-five (25) percent of the total number of the required means of egress.
- (8) Safe, continuous and unobstructed passageways with a minimum width of at least one meter, but not less than the width of the exist, shall be provided and maintained.
- (9) No steps or stairs shall be used in horizontal exits. When there is a difference in level between cemented floor areas, ramps or inclines of not more than one to ten (1 to 10) slopes shall be installed.
- (10) The construction of the exits, including stairs and means of illumination, shall be in accordance with the provisions of the Building Code and the Electrical Code of the Philippines. In the absence of such provisions, the Fire Code of the Philippines shall apply.

1943.04 : Stairways:

- (1) Stairs, platforms, stairways and landings in buildings of any type of construction over three (3) stories in height used as fire exits shall be constructed of incombustible materials.
- (2) Building over three (3) stories in height of non-fire resistant construction and with roofs having a slope of less than 1 in 4, at least one stairway shall extend through the roof.
- (3) All stairways used as fire exits shall lead directly to the street or through fire resistant passages with a width of at least equal to the aggregate width of all exits discharging through such passages.
- (4) All approaches to fire exits shall be cleared of any obstruction and properly marked to make the direction of egress clear.

1943.05 : Fire Doors:

- (1) Stairway enclosures, fire exits and partitions shall be provided with fire doors of the self-closing type and easily opened from either side towards the line of travel in leaving the building except the last floor which should open away from the exit.

- (2) Doors giving access to stairways shall not open directly on stairs, but shall open on landings leaving a path of travel equal to at least the width of the door at any point during its swing.
- (3) Doors swinging on both sides, vertical-sliding doors, rolling shutters and revolving doors shall not be allowed as exits.
- (4) Where for practical reasons swinging doors are not suitable, horizontal sliding doors may be used.
- (5) Doors from stairways to the outside of the building shall have a width equal to at least the effective width of the stairs.
- (6) Doors leading into or out of any building or floor shall not be locked or fastened during period of occupancy.

1943.06 : Installation of Facilities:

Installation of building facilities like hot water pipes, chimneys, or heat producing appliances shall be as provided in this Standards.

1943.07 : Storage:

- (1) Significant quantities of commodities with fire hazards greater than ordinary combustible commodities shall be separated from the main bulk by fire walls.
- (2) Commodities which may be hazardous when combined with each other shall be stored separately to prevent contact with each other.
- (3) Water absorbed during fire fighting operations shall be considered in the determination of safe floor loads.

1944 : Fire-Fighting Facilities:

1944.01 : General Requirements:

- (1) Portable installations, vehicles, except those for public utility, are subject to the provisions of this Standards.

1944.02 : Water Supply:

- (1) Where connection from a public water supply system is not available, an adequate private water supply reservoir capable of supplying all fire fighting systems for eight (8) hours shall be provided.
- (2) Supply system, including tanks or reservoirs and pumps, shall be located and protected that their operation or use will not be impaired by a fire in the workplace.

1944.03 : Hydrants:

- (1) Hydrants shall be of the same types and sizes as those used by the local public fire department and located or protected that they will not be exposed to mechanical damage from vehicles.

1944.04 : Hose:

- (1) Hose couplings, outside hydrants or standing nipples shall be of the same type and size as those used by the local public fire department.
- (2) Hose shall be thoroughly drained and dried after each use, and tested at frequent intervals or at least once every four (4) months.

1944.05 : Portable Extinguisher:

(1) General Requirement

- a. all places of employment, including those where automatic-sprinkler protection system is installed, shall be provided with portable fire extinguishers for protection against incipient fires;
- b. portable extinguishers shall be maintained in fully charged and operable condition and kept in their designated places at all times when not in use;
- c. approved fire extinguishers shall be used;
- d. extinguishers shall be installed on hangers or brackets conspicuously located in unobstructed areas readily accessible in the event of fire;
- e. extinguishers having gross weight not exceeding 18 kilograms shall be installed so that the top is not more than 1.5 meter above the floor. Those exceeding 18 kgs., except wheeled types, shall be installed not more than 1 m. above the floor.
- f. extinguishers shall be inspected monthly or at more frequent intervals when circumstances require to ensure they are in their designated places, to determine physical damages and that they are in good operable condition;
- g. at regular intervals of not more than one year, or when specifically indicated by an inspection, extinguishers shall be thoroughly examined, recharged or repaired; and
- h. on the place where extinguishers are located, the type and use of the extinguishers and instructions on its proper use shall be marked in visible and easily readable letters.

(2) Selection of Extinguishers:

Extinguishers shall be selected for the specific class or classes or hazards to be protected against in accordance with the following:

- a. Extinguishers for Class "A" hazards, such as wood, cloth, paper, rubber and other similar ordinary materials, shall be selected from foam, loaded stream, multipurpose dry chemical and water types;
- b. Extinguishers for Class "B" hazards, fires in flammable liquids, gases and greases, shall be selected from carbon dioxide, dry chemical, foam, loaded stream and multipurpose dry chemical;
- c. Extinguishers for Class "C" hazards, fires which involve energized electrical equipment where the electrical non-conductivity of the extinguishing media if of importance, shall be selected from carbon dioxide, dry chemicals, and multi-purpose dry chemicals;

When the electrical energy is disconnected. Class "C" fire may be treated as either Class "A" or Class "B";

- d. Extinguishers for protection of Class "D" hazards fire in combustible metals, such as magnesium, titanium, zirconium, sodium and potassium, shall be of types approved for use on the specific combustible metal hazard. Only suitable dry powder extinguishers shall be used for metal fires;
- e. Toxic vaporizing extinguisher is not recommended for any type of fire;

- f. Extinguishers which need to be inverted to operate are not recommended for use;
- g. Soda acid fire extinguishers are not recommended for use.

(3) Distribution of fire extinguishers:

- a. Extinguishers for light hazards Class "A" fires, where the amount of combustible or flammable materials present are of such quantity that fires of small size may be expected in offices, schoolrooms, churches, assembly halls and other similar places shall be located that a person will not travel more than thirty (30) meters from any point to reach the nearest extinguisher. One (1) unit of five to six (5 to 6) quarts (1 1/4 to 1 1/2 gal.) foam extinguisher for every 250 sq. meters (2,500 sq. ft.) of floor area or a greater fraction thereof shall be provided;
- b. Extinguishers for ordinary hazards Class "A" fires, where the amount of combustible or flammable material present are such that fires of moderate size may be expected in mercantile storage and displays auto showrooms, parking garages, light manufacturing warehouses not classified as extra hazard, school shops and other similar places shall be provided and located that a person will not travel for more than fifteen (15) meters from any point to reach the nearest extinguishing capacity for every 125 sq. meters of floor area or a greater fraction thereof;
- c. Extinguishers for extra hazard Class "B" fires, where the amount of combustible or flammable materials present is such that fires of severe magnitude may be expected in woodworking auto repair, air craft servicing, warehouses with high piled (5 meters or over) combustible processes, such as flammable liquid handling, painting and other similar areas shall be provided with a 2.7 kgs. dry chemical for every sixty (60) sq. meters of floor area or a greater fraction thereof;
- d. For deep-layer flammable liquid Class "B" fires in deep or quench tanks, at least one numerical unit of extinguishing potential shall be provided for every sixty (60) sq. meters of floor area or a greater fraction thereof. The travel distance to reach the nearest extinguisher shall not be more than fifteen (15) meters. Multiple smaller extinguishers shall not be used in lieu of larger units required;
- e. Extinguishers suitable for Class "B" fires are not acceptable in lieu of the required extinguishers for Class "A" fires unless it has also a Class "A" rating. An extinguisher carrying both Class "A" and "B" ratings may be accepted for area requirements under each individual letter classification and at the numerical rating for that class;
- f. Extinguishers with Class "C" rating shall be required where energized electrical equipment may be encountered. The size and location shall be on the basis of the anticipated Class "A" or "B" hazards;
- g. Extinguishers shall have a durable tag securely attached to show the maintenance and re-charge data and containing the signatures of persons performing the service;
- h. Extinguishers shall be properly marked to indicate the suitability of the extinguishers for particular class of fires;
- i. Extinguishers shall be hydrostatically tested before use and periodically tested at least once in every five (5) years or as may be required by the enforcing authority when inspection indicate the need for such examination.

1945 : Flammable and Combustible Liquids:

- (1) This requirement shall apply to liquids with a flash point of not more than 93.3°C.
- (2) Liquids of flash points above 93.3°C which may assume the characteristic of lower flash points liquids when heated shall be covered by this provision.

1945.01 : Tank Storage:

- (1) Tanks used for flammable and combustible liquids shall be built of steel.
- (2) Tanks may be built of materials other than steel for underground installation or if required by the properties of the liquid stored shall be designed to specifications approved for the purpose.
- (3) Unlined concrete tanks may be used for storing flammable or combustible liquids having a gravity of 40 degrees or heavier.
- (4) Tanks located above ground or inside buildings shall be of non-combustible construction.

1945.02 : Design and Fabrication:

- (1) The design and specification used in the construction and installation of tanks shall be as provided under applicable regulations of the American Petroleum Institute and the ASME Boiler and Pressure Vessels Code, which are adopted for this purpose.
- (2) Plans for fabrication and fabrication processes shall be approved and supervised by the Bureau.

1945.03 : Installation of Outside Tanks:

- (1) Every above ground tank for the storage of flammable or combustible liquids, except those liquids operating at pressures not in excess of 2.5 psig. and equipped with emergency venting which will not permit the pressure to exceed 2.5 psig., shall be located in accordance with Table 45b.
- (2) Every above ground tank for the storage of flammable or combustible liquids, except those liquids with boil over characteristics and unstable or combustible liquids operating at pressures exceeding 2.5 psig. and equipped with emergency venting which will permit pressure to exceed 2.5 psig. shall be located in accordance with Table 45 c.
- (3) Every above ground tank for the storage of flammable or combustible liquids with boil-over characteristics shall be located in accordance with Table 45 d.
- (4) Every above ground tank for the storage of unstable liquids shall be located in accordance with Table 45e.
- (5) Reference distances for use in Table 45b-e shall be as provided in Table 45f.
- (6) The distance between two storage tanks shall not be less than three (3) ft., except two tanks of diverse ownership where the Regional Office or authorized representative may substitute the distances provided in Tables 45b-e on the written request and consent of the owners.

1945.04 : Drainage, Dikes and Walls of the Above Ground Tanks:

- (1) The area surrounding a tank or group of tanks shall be provided with drainage to prevent the accidental discharge of liquid to adjoining property or reaching waterways. When the tanks under consideration do not constitute a hazard to adjoining property, the Regional Office or authorized representative may waive or suspend this provision.
- (2) The volumetric capacity of the drainage shall not be less than the amount of the full liquid content of the largest tank within the diked area.

1945.05 : Installation of Tanks Inside of Buildings:

Tanks shall not be installed inside buildings except service or supply tanks with a capacity of not more than six (6) gals.

1945.06 : Installation of Underground Tanks:

- (1) The distance from any part of tanks storing liquids having flash points below 37.770C (1000F) to the nearest wall of a building, basement or pit shall not be less than 30.50 cm. (1 ft.); and the property line, not less than 91.50 cm. (3 ft.).
- (2) The distance from any part of a tank storing liquids having flash points at or above 37.770C (1000F.) to the nearest wall of a building basement pit or property line shall not be less than 30.50 cm. (1 ft.)
- (3) Underground tanks shall be set on firm foundations and surrounded with at least six (6) inches of noncorrosive inert material well tamped in place. Tanks shall be covered with a minimum of two feet of earth or four inches reinforced concrete slab on top of one foot of earth.
- (4) Vent pipes shall terminate outside of buildings and higher than the fill opening. The size of the vent shall depend on the filling or withdrawal rate to prevent the pressure in tank to exceed, 2.5 psig.

1945.07 : Service Stations:

- (1) Tank used in automotive service stations shall be buried as provided in Rule 1945.06 but with at least six inches thick reinforced concrete slab over one foot of earth.
- (2) There shall be only a maximum of three tanks in one service station containing 6,000 gallons per tank and a total aggregate of 18,000 gallons.
- (3) Above ground tanks used in automotive stations shall be as provided in Rule 1945.05.
- (4) There shall be no smoking or open flames in the area and the motors of all equipment being fueled shall be shut off.

1945.08 : Processing and Bulk Plants:

All buildings, installations and operations in processing and bulk plants shall be as provided in Rule 1160 and the Philippine Electrical Code.

1945.09 : Other Installations:

All other tanks installed not in conformity with this Rule shall reduce their contents to comply with the distance requirements. Those to be installed shall be with the prior approval of the Department.

1946 : Combustible Solids:

1946.01 : Nitrate Motion Picture Film:

- (1) Nitrate picture film shall be stored or handled in buildings of fire-resistant construction.
- (2) All rooms where nitrate motion picture films are stored or handled, except motion picture projection rooms and film vaults, shall be separated from each other and from all other parts of the building by partition of suitable stability and fire-resistance. The partitions shall be continuous from the floor to ceiling and securely anchored to walls, floor and ceiling.
- (3) Opening in partitions shall be protected by approved fire door of a type suitable for the purpose.
- (4) Rooms in which nitrate motion picture films are handle through which workers pass, shall be provided with a minimum aisle of 80 cm. (31.24) width.
- (5) Explosion vents shall be provided in rooms or vaults used for storing and handling nitrate films.

- (6) There shall be at least 3.25 sq. m. of floor area allotted to each worker in every room and not more than 15 persons shall work at any one time in a room where nitrate film is handled.
- (7) Tables and racks used in connection with the handling of film (joining inspection and assembling tables) shall be non-combustible, or shall be of wood construction with no member less than 3.75 cm. and kept at least 10 cm. away from any radiator or heating apparatus.
- (8) In rooms where nitrate film is stored or handled, artificial illumination shall be restricted to incandescent or fluorescent electric lights. Light fixture shall be firmly set in place and provided with guards to avoid mechanical injury.

1946.02 : Pyroxylin Plastics:

- (1) Buildings used in the fabrication of pyroxylin plastics shall be of fire-resistant materials. However, budding for factory use may be of non-fire-resistant construction but shall not exceed four stories or 17 meters in height.
- (2) All portions of buildings used in whole or in part for the fabrication of pyroxylin plastics shall be provided with adequate aisle space and have at least two exits remote from each other.
- (3) No pyroxylin plastic shall be stored within 1 meter from steam pipes, chimneys and other heating apparatus nor within 6 meters from any manufacturing operations. Heating equipment containing ignition sources shall not be permitted in any room used for storage.
- (4) Smoking is prohibited in any establishment handling and storing pyroxylin plastics and conspicuous "No Smoking" signs shall be posted in prominent places.
- (5) Fire fighting equipment of the right type and number shall be provided.

1946.03 : Magnesium:

A. Melting and Casting:

- (1) Melting operation shall be done in buildings of non-combustible materials preferably with a high roof for adequate ventilation.
- (2) Pots and crucibles shall be inspected regularly and discarded as soon as there is any evidence of possible failure. Safety run-off containers shall be provided for melting pots and crucibles.
- (3) Ladles, skimmers and sludge pans must be thoroughly predried and not before contacting molten metal.
- (4) Flame-resistant clothing, high foundry shoes, and adequate face protection shall be used by employees working in melting and casting operations.

B. Rough Finishing and Castings:

- (1) Provisions shall be made for the proper removal of dust produced by grinders and for the immediate quenching of sparks produced. Cuttings from band saws should be swept up at regular intervals to prevent excessive accumulation in the work area.
- (2) Work benches and other equipment shall be non-combustible materials. If wood table tops or other fixtures of wood or combustible materials are considered necessary, these shall be treated to render them fire retardant and free from cracks or recesses in which magnesium dust can accumulate.
- (3) Operators shall wear caps and hard finished or fire-resistant outer clothing without pockets or cuffs.

C. Heat Treating:

- (1) Thermocouples used to operate the temperature devices shall be properly maintained to prevent overheating,
- (2) Furnace should be tested initially and at regular intervals to locate undesirable high temperature areas.
- (3) Furnace shall be properly and tightly constructed. Gas or oil-fired furnaces shall be provided with combustion safety controls. All furnaces shall have two sets of temperature controls operating independently, one maintaining the desired temperature and the other for high temperature limit control. The high temperature limit control shall be adjusted to operate at a temperature slightly above the controller. In case the latter fails, the limit switch shall cut off the power preventing ignition of the magnesium.
- (4) Magnesium to be put in a heat-treating furnace should be carefully freed of magnesium turnings, chips and sawdust.
- (5) Magnesium billets, castings and wrought products must not be placed in a heat treating furnace with wood spacers or other materials below the normal heat treating ranges of magnesium.
- (6) Aluminum parts, sheets or separators must not be included in a furnace load of magnesium.
- (7) The heat treating temperature cycle recommended by the alloy manufacturer shall be strictly adhered to.
- (8) Molten salts containing nitrates shall not be used for heat treating magnesium alloys.

D. Machining Magnesium:

- (1) Tools used for machining shall not be allowed to ride on the metal without cutting.
- (2) When holes with depths greater than five times the drill diameter are being drilled in magnesium, a high helix drill (45) degrees shall be used to prevent the packing of chips causing resultant frictional heating and possible flash fire in the fine chips.
- (3) Machinery used for machining and drilling shall be provided with pans to catch the chips or turnings so installed that the pans can be readily withdrawn from under the machine in case of fire.

1946.04 : Titanium:

- (1) Buildings in which reaction chambers and furnaces are used in the processing of titanium, shall be fire-resistant or of noncombustible materials.
- (2) The main building shall have adequate ventilation and doors at more than one location shall be remote from each other. Dry rooms shall be of fire resistant materials.
- (3) Floors in furnace rooms and dry rooms shall be of noncombustible materials, preferably of concrete, brick or steel plates. Floors shall be slightly crowned or sloped to prevent accumulation of water in the vicinity of the reactors or furnaces and safety run-offs. shall be provided to direct or contain any spills of molten metal into safe channels.

B. Storage:

- (1) Containers of titanium tetrachloride shall be stored in a cool, well-ventilated dry place away from the areas of acute fire hazards. Containers shall be labeled plainly and stored carefully to avoid mechanical injury.

C. Mechanical Equipment:

- (1) Furnaces and reaction chambers shall be inspected and checked regularly to detect defects and leaks. No equipment found to be defective shall be used until the damaged parts are replaced or repaired and properly tested to ensure safe operation.
- (2) Furnace setting must be kept dry and free of iron scales.
- (3) Fuel supply lines shall have the control valves at an accessible location remote from the reactors.
- (4) Benches, stands, and tables used in furnace rooms where special fire hazards exist shall be of non-combustible materials.

D. Fire Prevention

- (1) The process that produces titanium sponge shall be carried out in enclosed oxygen-free containers.
- (2) An inert-gas dispensing system shall be installed for processing inert-gas requirement.
- (3) All pipes, fittings, and valves in the inert gas-dispensing or distributing system shall be checked to ensure an uninterrupted flow of gas to the reactors.
- (4) All containers used to receive molten metal shall be thoroughly dried before using. All metals added to melting pots containing molten metal shall be thoroughly pre-dried.
- (5) Good housekeeping is essential. Supplies shall be stored in an orderly manner with properly maintained aisles to permit regular inspection and segregation of incompatible materials.
- (6) Ordinary combustible materials such as paper, wood, cartons and packing materials must not be stored or allowed to accumulate near furnaces or other ready sources of ignition.
- (7) Supplies or materials in the reactor building and dry rooms shall be limited to the amount needed for normal eight-hour operation.

E. Fire Protection:

- (1) Only extinguishers of the type developed especially for combustible metal fires shall be used for controlling and containing small titanium fires.
- (2) Portable fire extinguishers of appropriate size and type shall be provided at locations where the presence of ordinary combustibles constitute the principal hazard.
- (3) Where automatic sprinkler protection is provided, a deflecting shield or hood be provided for the furnaces, reactors or other places where hot or molten may be present.

F. Safety Precautions for Personnel:

- (1) Special clothing of the type worn by foundry workers, including high foundry man shoes, shall be worn by employees engaged in tapping operations at the furnaces in titanium sponge plants. Clothing shall be fire retardant, easily removable with snap fasteners and without cuffs or pockets. Caps, or hoods and standard type face protectors shall be worn by workers tapping furnaces. Persons working with titanium or transferring it into or out of the storage shall wear protective clothing designed to provided protection against skin contact and of the approved type (it respirators and chemical goggles).

G. Casting:

- (1) All titanium furnace crucibles molds shall be designed to avoid the contact of molten metal with water.

- (2) When titanium is being cast, provisions shall be made to retain spilled metal under vacuum or inert gas protection and contact with water shall be prevented.
- (3) As in other casting operations, molds shall be predried and heated to remove volatiles before molten metal is poured into them.

H. Forging:

- (1) Fire protection in forging areas may be of the type generally provided for fires in ordinary combustibles, electrical or oil fires.

1946.05 : Zirconium:

- (1) Good housekeeping shall be maintained. Periodic cleaning, collection of dust at the point of operation and removal of dust and fine scrap from the premises shall be considered important steps in any fire prevention program.
- (2) Machining operation shall be conducted under controlled conditions

1947 : Electrical Installation:

1947.01 : General Requirements:

All electrical installations shall be in accordance with the provisions of Rule 1210.

1947.02 : Emergency Systems:

Emergency lighting system shall be provided to automatically light emergency exits in case of failure of the main electrical power line.

1948 : Alarm Systems and Fire Drills:

1948.01 : Sounding Devices:

- (1) All buildings having two or more stories in height shall be equipped with fire alarm system and signals of distinctive quality and pitch clearly audible to all persons inside the building.
- (2) Hand-operated sending stations of fire alarm boxes shall be provided on every floor and located that the travel to reach a station is not more than thirty (30) meters for industrial and commercial establishments with moderate or low hazard occupancy.
- (3) Fire-alarm stations shall be conspicuous, readily accessible, and in the natural path of escape from fire.
- (4) Hand operated sending stations of fire alarm boxes shall be provided on every floor and located such that the travel to reach a station is not more than sixty-one (61) meters for business establishments with moderate or low hazard occupancy.

1948.02 : Fire-fighting Drills:

- (1) Every place of employment depending on the magnitude of potential fires and the availability of assistance from the public fire department shall organize a fire brigade to deal with fires and other related emergencies.
- (2) The members of the fire brigade shall be physically qualified for the job and properly trained on firefighting use of hose, line, ventilation of buildings, salvage operations, rescue operations, first aid, and other related activities.

1948.03 : Fire Exit Drills:

- (1) Fire-exit drills shall be conducted at least twice a year year to maintain an orderly evacuation of buildings, unless the local fire department requires a higher frequency of fire drills.
- (2) Fire exit drills shall only include evacuation of persons and shall not include salvage operation.
- (3) In buildings where the population is of a changing character, the fire-exit training of the regular employees shall include the proper procedure to direct other occupants to safety.
- (4) Occupants of each department, floor or portion of the building shall be designated a particular place to assemble outside of the building and in places that will not hamper fire-fighting.
- (5) When two or more establishments occupy a building, fire exit drills shall be planned as if there is only one (1) establishment.
- (6) The organization and the composition of a fire-exit drill committee shall be as provided by the requirements of the local fire department.
- (7) Fire brigade as required by the local department or the Fire Code shall be organized.

TABLE 45a

TYPE OF CONSTRUCTION	OCCUPANCY HAZARDS		
	LOW	MODERATE	HIGH
WOOD - FRAME	: 3 stories	: 2 stories	: 1 storey
SLOW - BURNING	: 7 stories	: 6 stories	: 4 stories
FIRE - RESISTANT	: No limit	: No limit	: 5 stories

Any	: Protection : for exposures : :	: 1-1/2 times : Tables 45 f : shall not be less than : 25 ft.	: 1-1/2 times : Table 45 f : but shall not be less : than 25 ft.
Type	: : : None	: 3 times Table 45 f but : shall not be less than : 50 ft.	: 1-1/2 times Table 45 f : but shall not be less : than 25 ft.

TABLE 45 d

Type of tanks	: : : : Protection : :	: Minimum distance in : feet from property line : upon which to build on : including the opposite : side of a public way. :	: Minimum distance in feet : from nearest side of : any public way or from : nearest important : building. :
Floating roof	: Protection for : exposures : :	: Diameter of tank but : need not exceed 175 : feet. :	: 1/3 times diameter of : tank but need not exceed : 60 ft. :
	: : None :	: 2 times diameter of tank : but need not exceed : 350 ft.	: 1/3 times diameter of : tank but need not exceed : 60 ft.
Fixed roof	: Approved foam of : inerting system : : Protection for : exposures : :	: Diameter of tank but : need not exceed 175 : feet. : : 2 times diameter of tank : but need not exceed : 350 ft.	: 1/3 times diameter of : tank but need not exceed : 60 ft. : : 2/3 times diameter of : tank but need not exceed : 120 ft.
	: : : None	: 4 times diameter of tank : but not need exceed : 350 ft.	: 2/3 times diameter but : need not exceed 120 ft. :

TABLE 45 e

Type of tank	: : : : Protection : :	: Minimum distance in : feet from property line : upon which to build on : including the opposite : side of a public way. :	: Minimum distance in : feet from nearest side : of any public way or : from nearest important : building. :
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Horizontal	: Tank protected	:	:
and	: with any one of	:	:
vertical	: the following:	: Table 45 f	: Not less than
tanks	: Approved water	:	:
with	: spray	: but not	: 25 feet
emergency	: Approved	:	:
relief	: inerting	: less than	:
venting	: Approved	:	:
to permit	: insulation	: 25 feet	:
pressures	: and	:	:
but in	: refrigeration	:	:
excess of	: Approved	:	:
2.5 psig.	: barricade	:	:

:	: Protection	: 2-1/2 times	: Not less than
:	: for exposures	: Table 45 f but not	:
:	:	: less than 50 ft.	: 50 feet

:	:	: 5 times Table 45 f	: Not less than
:	: None	: but not less than	:
:	:	: 100 feet	: 100 feet

:	: Tank protected	:	:
:	: with any one of	:	:
:	: the following:	: 2 times Table 45 f	:
:	: Approved water	: but not less than	: Not less than
:	: spray	: 50 feet	:
:	: Approved	:	: 50 feet
:	: inerting	:	:
:	: Approved	:	:
:	: insulation	:	:
:	: and	:	:
:	: refrigeration	:	:
:	: Approved	:	:
:	: barricade	:	:

:	: Protection for	: 4 times Table 45 f	:
:	: exposures	: but not less than	: Not less than
:	:	: 100 ft.	: 100 feet

TABLE 45 f

Capacity Tank Gallons		: Minimum distance in : feet from property line : upon which to buil on : including the opposite : side of a public way.		: Minimum distance in feet : from nearest side of any : public way or from nearest : important building.
275 or less	:	5	:	5
276 to 750	:	10	:	5
751 to 12,000	:	15	:	5
12,001 to 30,000	:	20	:	5
30,001 to 50,000	:	30	:	10
50,001 to 100,000	:	50	:	15
100,001 to 500,000	:	80	:	25
500,001 to 1,000,000	:	100	:	35
1,000,001 to 2,000,000	:	135	:	45
2,000,001 to 3,000,000	:	165	:	55
3,000,001 or over	:	175	:	60

Conversion Factors:

- 1 (US) gallon - 3.785 liters
- 1 foot - 0.30.48 meters
- 1 inch - 2.54 cm.

RULE 1950 PESTICIDES AND FERTILIZERS

1951 : Scope:

This rule shall apply to all agricultural and industrial enterprises, as defined in Rule 1002 in which these chemicals are used or manufactured.

1952 : Definitions:

- (1) "*Pesticides* " shall mean any substance or product, or mixture thereof, including active ingredients, adjuvant and pesticides formulations, intended to control, prevent, destroy, repel or mitigate directly any pest. The term shall be understood to include insecticides, fungicide, bactericide, nematocide, herbicide, molluscicide, avicide, rodenticide, plant regulator, defoliant, desiccant and the like.
- (2) "*Pesticide residues* " shall mean the quantity of the original active or its biologically active transformation product which remain on a substance after weathering factors have taken effect.
- (3) "*Fertilizers* " shall mean any substance solid or liquid or any nutrient element or elements-organic or inorganic-singly or in combination with other materials, applied directly to the soil or to the plant for the purpose of promoting plant growth, increasing crop yield or improving their quality.
- (4) "*Harmful fertilizers* " are those, which are infectious, irritating, toxic and flammable.
- (5) "*Agricultural pesticides* " shall refer to pesticides, which are to be used in agriculture.
- (6) "*Household pesticides* " shall refer to pesticides as used for the control of pests found in places of human habitation, work and recreation e.g. flies, mosquitoes, cockroaches, ants, rodents. These shall include pesticide used for the control of pests in home, yards and garden.
- (7) "*Structural pesticides* " shall refer to pesticides as used in the control of pest in the following areas and which are to be applied only by FPA certified pesticide applicators.
 - a. Homes-including but not limited to private homes, hotels, condominiums and subdivisions.
 - b. Buildings-including but not limited to schools, and hospitals, food factories and other food handling establishments, commercial buildings, bodegas, storage and warehouses, building under construction and handicraft factories;
 - c. Lumber yards and other treating processing plant;
 - d. Other facilities engaged in the protection of stored, processed or manufactured product.
- (8) "*Organic fertilizers* " refer to any product whose basic ingredients are of plants and/or animal origin that have been decomposed biologically or chemically or through any other process and which can support solid and plant needs.
- (9) "*Mineral fertilizers* " are the products produced either synthetically or by the treatment of naturally occurring mineral.
- (10) "*Naturally occurring fertilizers* " shall include guano, rock phosphate, limestone, dolomite, pest and gypsum, sulfur deposit and others that are found in nature, mined and used as fertilizer raw materials.

1953 : General Provisions:

1953.01 :

Pesticides and fertilizers shall be handled and used only by persons thoroughly instructed in their use handling hazards and the precautions that shall be taken to avoid such hazards.

1953.02 :

Persons working with pesticides and fertilizers shall have pre-employment and periodic examinations as provided under Rule 1960.

1953.03 :

Persons handling pesticides and fertilizers which react strongly to alcohol, shall abstain from alcoholic drinks at least ten hours before and at least twelve hours after any work or operation where these substances are used or applied.

1953.04 :

All containers of pesticides and fertilizers shall state on the label:

- (1) Product information
- (2) Directions for use
- (3) Direction for storage and disposal
- (4) Safety precautions, whenever applicable
- (5) First aid measures, whenever applicable
- (6) Physician's information and treatment

1954 : Pesticides:

1954.01 : Handling:

- (1) The precautions stated in the label before handling or using any pesticides shall be followed:
 - a. Pesticides shall be applied only as directed in the amount and in the manner specified in the label.
 - b. Protective clothing and other protective equipment such as gloves, masks, boots, etc. as indicated in the label shall be used.
 - c. Smoking, drinking or eating while handling pesticides is prohibited. Hands, face or the whole body shall be washed thoroughly before smoking, drinking, eating and attending to personal needs.
 - d. Pesticides spilled on the skin and clothing shall be immediately washed thoroughly with clean running water. Spillage at the working area shall be immediately decontaminated prior to proper disposal.
 - e. Persons using agricultural pesticides shall spray or apply these in the windward direction.
 - f. Whenever pesticides are applied, entry shall be allowed only after a specified time and when properly protected.

- g. Agricultural pesticides shall be applied in such a manner that lakes, canals, rivers, or thickly populated places are not polluted.
 - h. Workers using pesticides shall not blow out blocked spray pipes or nozzles with the mouth.
- (2) Adequate ventilation shall be provided in areas where pesticides are poured, mixed or transferred from one container to another.
 - (3) Equipment used in pesticide manufacture, formulation, repacking and application shall be adequately maintained to avoid leakage or contamination of workers.
 - (4) In the transport of pesticides, the following precautions shall be observed:
 - a. Only safe and appropriate containers shall be used.
 - b. Pesticide shall be separated from other cargoes during transport.
 - c. Leaks or mutilated containers shall be checked during and after transporting pesticides to prevent contamination of cargo, vegetation and waterways.
 - d. Pesticides shall not be borne directly on the back of workers or work animals.
 - e. Spilled pesticides shall be decontaminated immediately prior to proper disposal.

1954.02 : Storage:

- (1) Pesticides shall be stored in original container tightly closed.
- (2) The precaution listed in the label shall be followed for the storage of each compound.
- (3) Pesticides shall be stored in cool, dry, and well ventilated places not accessible to children, animals and unauthorized persons.
- (4) Pesticides shall be stored away from food and foodstuff.
- (5) Volatile pesticides shall always be stored separately from other pesticides to avoid cross contamination and shall always be stored in an unrestricted atmosphere.
- (6) Smoking, eating or drinking in the pesticides area is prohibited.

1955 : Fertilizers:

1955.01 : Handling:

The following rules shall be observed in the handling of agricultural chemicals:

- (1) Fertilizers shall not be left unattended to when not in use;
- (2) Fertilizers shall be prepared by mechanical means in closed vessels. However, if closed mechanical preparation is impracticable:
 - a. Tall vessels and long handled implements shall be used to reduce the risk of splashing;
 - b. Vessels shall not be fully filled to avoid splashing.
- (3) Unbreakable vessels shall be used in the preparation of toxic fertilizers.

- (4) Protective clothing, like boots, gloves, goggles and face shield shall be used when mixing, diluting, spraying or spreading toxic fertilizers.
- (5) Spillage of fertilizers and contamination shall be prevented. Spillage shall be thoroughly cleaned immediately.
- (6) Whenever practicable, apply toxic fertilizers by mechanical means.
- (7) Immediately after spraying toxic fertilizers in a greenhouse, the employers shall:
 - a. require all persons entering the greenhouse to be properly protected;
 - b. post notices on all gates of the greenhouse stating how long the area is to remain closed before entry of persons without proper protection is allowed.
- (8) Workers using toxic fertilizers shall not:
 - a. blow out blocked spray pipes or nozzle with the mouth;
 - b. spray or spread fertilizers against the direction of the wind.
- (9) Decontaminate the exterior of all tanks and containers in which toxic fertilizers are stored.
- (10) Securely close the opening of all tanks and containers in which toxic fertilizers are kept.
- (11) Tanks and piping shall:
 - a. be regularly checked for damage and
 - b. be provided with stop valves or other devices that can effectively prevent or limit the escape of the substance.
- (12) Fertilizers shall be transported only in suitable vehicles to ensure protection to the driver and other users of the vehicles.
- (13) Handling of organic fertilizers shall be by mechanical means to minimize direct contact with such fertilizers or in the absence of mechanical means, proper protection during handling shall be required.
- (14) Personal protective equipment shall be provided too, and used by workers when applying mineral fertilizers.

1955.02 : Storage:

- (1) Storage place for fertilizers shall be well lighted to facilitate easy identification of chemicals.
- (2) Storage building shall be sound, weather-proof, water-tight and fire-resistant.
- (3) Storage rooms or buildings shall be locked to prevent entry of unauthorized persons or animals.
- (4) Fertilizers shall be stored separately from other material and in particular; away from food and feeding stuff.
- (5) Fertilizers of different kinds shall be stored separately in sacks or containers on skids or platform and kept away from walls and combustible materials.

- (6) Transfer nitrate from bags and wooden barrels to incombustible bins. Empty bags and barrels shall be thoroughly washed after each use.
- (7) Sodium chloride shall be stored in metal containers.
- (8) Aqua ammonia shall be stored in a cast iron or mild steel tank designed with a working pressure of 7 kg./cm²
- (9) Anhydrous ammonia shall be transported and stored in pressure containers designed with a working pressure of 18.65 kg./cm² g (265 psig). Storage tanks shall have no brass and copper fittings.
- (10) Anhydrous ammonia tanks shall be provided with pressure relief valves on the pipelines and bleed valves in the hoses.
- (11) Tanks for anhydrous ammonia shall:
 - a. be situated at a safe distance from other buildings, fire hazard and traffic;
 - b. be protected against solar heat and mechanical damage; and
 - c. not more than four-fifths (4/5) full.
- (12) Organic fertilizer shall be stored in open and well ventilated areas.
- (13) Fertilizers stored in containers other than those provided by the manufacturer shall be clearly labeled with the name of the substance and marked with proper symbols.

1955.03 : Hygiene:

- (1) The employer shall provide his workers with necessary protective clothing and equipment maintained in good condition.
- (2) Workers handling pesticides and harmful fertilizers shall be instructed not to eat, drink or smoke unless:
 - a. they have removed their protective clothing;
 - b. they have washed their hands and face;
 - c. and they are in the area for eating purposes.
- (3) Workers handling pesticides and harmful fertilizers shall:
 - a. deposit their personal or street clothing in rooms provided for the purpose;
 - b. remove all protective clothing and equipment at the end of each day's work and deposit them in specified decontaminating containers provided for the purpose.
 - c. wash hands, face and neck or take a shower if pesticides /harmful fertilizers was used or handled.
- (4) Protective clothing shall be laundered or otherwise thoroughly cleaned at least once a week or more frequently, depending upon the degree of the contamination and the material or substance used.
- (5) Workers shall thoroughly wash gloves after every use.

- (6) Workers may be vaccinated to give them active immunity. Sera and medicaments may be taken as passive defense measures.
- (7) Workers exposed to prolonged contact with natural fertilizers shall be subjected to regular medical examination.

1957 : Disposal of Unwanted Materials:

- (1) Waste of harmful pesticides, empty cases, boxes, bottles, and other containers shall be:
 - a. returned to the supplier, if practicable;
 - b. buried deep in the earth away from springs and other water sources;
 - c. burned in such a way that persons cannot be endangered by the smoke and other products of combustions.
- (2) Pesticides or empty containers shall not be left lying about in the fields, yards, and other open areas, and shall not be thrown into the ponds, streams or drains.
- (3) Pesticides that have not lost their potency shall be destroyed. The competent authority shall be consulted on the proper disposal of large quantities of these substances.

RULE 1960 OCCUPATIONAL HEALTH SERVICES

1961 : General Provisions:

- (1) Every employer shall establish in his place of employment occupational health services in accordance with the regulation and guidelines provided for under this rule.
- (2) The employer, the workers, and their representatives, where they exist shall cooperate and participate in the implementation of the organizational and other measures relating to occupational health services.

1961.01 : Coverage:

- (1) This Rule shall apply to all establishments whether for profit or not, including the Government and any of its political subdivisions and government-owned or controlled corporations.
- (2) The Bureau of Dental Health Services of the Department of Health shall be responsible for the development and enforcement of dental standards.

1961.02 : Definitions:

As used in this Rule, except where the context clearly indicates otherwise, the following terms shall mean as herein defined:

- (1) "*Occupational Health Services* " are services entrusted with essentially preventive functions and responsible for advising the employers, the workers, and their representatives, in the establishment/undertaking of the following:
 - (a) The requirements for establishing and maintaining a safe and healthy working environment which will facilitate optimal physical and mental health in relation to work, and
 - (b) The adaptation of work to the capabilities of workers in the light of their state of physical and mental health.
- (2) "*Occupational Health Personnel* " in an establishment/undertaking refers to the qualified first-aid, nurse, dentist, or physician, whose service/services have been engaged by the employer in order to provide occupational health services in the establishment/ undertaking.
- (3) "*First Aid Treatment* " means adequate, immediate and necessary medical and/or dental attendance or remedy given in case of injury or sudden illness suffered by the workers, irrespective of whether or not such illness/injury is occupational in nature, before more extensive medical and/or dental treatment can be secured. It does not include following treatment for an injury or illness.
- (4) "*First Aider* " means any person trained and duly certified or qualified to administer first-aid by the Philippine National Red Cross or by any organization accredited by the same.
- (5) "*Occupational Health Practitioner* " refers to a physician, nurse, engineer, dentist or chemist duly licensed to practice his/her profession in the Philippines and possessing all of the additional qualifications required under Rule 1964.01.
- (6) "*Emergency Treatment Room* " means any enclosed area or room equipped with the necessary medical facilities and supplies, and located within the premises of the establishment where workers maybe brought for examination and treatment of their injuries or illnesses in cases of emergency.

- (7) "*Emergency Clinic* " means an enclosed area, room or building, located within the premises of the establishment, and equipped with the necessary medical facilities and supplies, where workers maybe brought for examination and treatment of their injuries or illnesses in cases of emergency, where more elaborate instruments and equipments (such as examining bed, oxygen tank) are made available for the workers, and where the services of a more competent medical staff are provided, who may handle or treat a few simple cases of injuries or illnesses needing short-term confinement, or may refer such cases to hospitals.

1961.03 : Occupational Health Services:

- (1) Functions: Without prejudice to the responsibility of each employer for the health, and safety of the workers in his employment, and with due regard to the necessity for the workers to participate in matters of occupational health and safety, occupational health services shall have the following functions as are adequate and appropriate to the occupational risks of the establishment/undertaking.
- (a) Identification and assessment of the risks from health hazards in the workplace;
 - (b) Surveillance of the factors in the working environment and working practices which may affect the worker's health, including sanitary installations, canteens, and housing where these facilities are provided by the employer;
 - (c) Advice on planning and organization of work, including the design of the workplace, on the choice, maintenance, and condition of machinery and other equipment, and on substances used in work;
 - (d) Participation in the development of programs for the improvement of working practices as well as testing and evaluation of health aspects of new equipment;
 - (e) Advice on occupational health, safety and hygiene, and on ergonomics and individual and collective protective equipment;
 - (f) Surveillance of worker's health in relation to work;
 - (g) Promoting the adaptation of work to the workers;
 - (h) Collaboration in providing information, training and education in the fields of occupational health and hygiene and ergonomics;
 - (i) Organizing of first-aid and emergency treatment; and
 - (j) Participation in analysis of occupational accidents and occupational diseases.

1961.04 : Organization and Preventive Services:

- (1) Occupational health services maybe organized by:
- (a) the establishment/undertaking
 - (b) government authorities or official services recognized by the Bureau
 - (c) social security institution
 - (d) any other bodies authorized by the Bureau
 - (e) a combination of any of the above.
- (2) Occupational health services organized as a service for a single small-scale establishment shall have an occupational health practitioner as one of its personnel, who shall conduct an inspection of the workplace:
- (a) at least once every two (2) months for hazardous small-scale establishments employing 1 to 50 workers;

- (b) at least once every month for hazardous small-scale establishments employing 51 to 99 workers;
 - (c) at least once every six (6) months for non-hazardous establishments employing 1 to 99 workers.
- (3) Occupational health services organized as a service for a single, non-hazardous medium scale establishment employing 100 to 199 workers, shall have an occupational health practitioner as one of its personnel who shall conduct an inspection of the workplace at least once every three (3) months.
 - (4) Occupational health services organized as a service for a single, hazardous medium scale establishment employing 100 to 199 workers shall have a part-time occupational health physician as one of its personnel, who shall perform the duties of an occupational health physician as provided for under Rule 1965.02.
 - (5) For hazardous and non-hazardous large-scale establishments employing 200 workers and more occupational health services shall be organized as a service solely for a single establishment/undertaking, and shall have a part-time or full-time occupational health physician, in accordance with the provisions of Rule 1963, as one of its personnel. Such occupational health physician shall perform the duties of an occupational health physician as provided for under Rule 1965.02.
 - (6) When an occupational health service is organized as a service common to a number of establishments/ undertakings, the following regulations shall be followed:
 - (a) for small-scale industries, the total number of establishments shall not exceed ten (10).
 - (b) for medium-scale industries, the total number of establishments shall not exceed four (4).

1962 : Hazardous Workplace:

For purposes of this Rule, the Bureau shall, with the approval of the Secretary, add from time to time to the list of hazardous workplaces provided in Rule 1010.

1963 : Emergency Health Services

1963.01 : Medicines and Facilities:

- (1) Every employer covered by this Rule shall in his workplace at least minimum quantity of medicines, medical supplies and equipments and medical faculties listed in Table 47 (appendix) on medicines. Supplies and facilities, for the use of the workers employed in the establishment/undertaking.
- (2) The medicines, medical supplies and facilities prescribed in table 47 maybe substituted with other comparable medicines and/or facilities as prescribed by the occupational health physician of the workplace.
- (3) The medicines, medical supplies and facilities prescribed in table 47 shall be kept inside the treatment room/medical clinic required under Rule 1963.02, and shall be replaced with the same quantity immediately after use or consumption.

1963.02:Emergency Medical and Dental Services:

Every employer covered by this rule shall provide his employees/workers medical and dental services and facilities in the following cases and manner:

- (1) For hazardous workplaces:

- (a) in small-scale industries where the number of workers is from 1 to 50, the employer shall provide the services of a full-time first aider who maybe one of the workers in the workplace and who has immediate access to the first-aid medicines prescribed in Rule 1963.01.
- (b) in small-scale industries where the number of workers is from 51 to 99, the employer shall provide the services of a part-time occupational health nurse who shall stay in the premises of the workplace at least four (4) hours a day, six (6) times a week. Where there are more than one work shift in a day: the nurse shall stay in the workplace during the shift which has the biggest number of wonders. The employer shall also provide the services of a full-time first-aider and shall maintain in his place of employment an emergency treatment room for his workers.
- (c) in medium-scale industries where the number of workers is from 100 to 199, the employer shall provide the services of a part-time occupational health physician and a part-time dentist each of whom shall stay in the premises of the workplace at least four (4) hours a day, three (3) times a weed, and each one working on alternate days with the other, where there are more than one work shift in a day, the physician and the dentist shall stay in the workplace during the shift which has the biggest number of workers. In addition, the services of a full-time occupational health nurse and a fulltime first-aider shall be provided. The employer shall maintain in his place of employment an emergency treatment room for his workers.
- (d) in large-scale industries where the number of workers is from 200 to 600, the employer shall provide the services of a part-time occupational health physician and a part-time dentist each of whom shall stay in the premises of the workplace at least four (4) hours a day, six (6) times a weed, and each working in alternate periods with the other, where there are more than one work shift in a day, the physician and the dentist shall stay at the workplace during the shift which has the biggest number of workers. The services of a full-time occupational health nurse and a full-time firstaider shall also be provided. The employer shall maintain in his place of employment an emergency medical clinic for his workers.
- (e) in large-scale industries, where the number of workers is from 601 to 2000, the employer shall provide the services of a full-time occupational health physician who shall stay in the premises of the workplace eight (8) hours a day, six (6) times a week, or two (2) part-time occupational health physician each working four (4) hours a day, six (6) times a week in alternate periods with the other. The services of a full-time dentist shall also be provided. The physician and the dentist shall stay at the workplace during the shift which has the biggest number of workers. The services of a full-time occupational health nurse and a full-time first-aider shall be provided for every work shift. The employer shall maintain in his place of employment an emergency medical and dental clinic for his workers.
- (f) in large-scale industries where the number of workers is more than 2000, the employer shall provide the services of a full-time occupational health physician and a full-time dentist, each of whom shall stay in the premises of the workplace eight (8) hours a day, six (6) times a week during the work shift which has the biggest number of workers. In addition, the employer shall provide the services of one (1) part-time occupational health physician for each of the other work shifts who shall stay in the premises of the workplace at least four (4) hours a day, six (6) times a week. The services of a full-time occupational health nurse and a full-time first-aider shall also be provided for every work shift. The employer shall maintain in his place of employment an emergency hospital having a bed capacity of one (1) bed for every one hundred (100) workers and a dental clinic.
- (g) every employer of industries/establishments having factories/plants using or producing pesticides under toxicity categories I and HI of the World Health Organization (WHO)toxicity classification standards shall provide for his workers the following:
 - (i) a medical clinic within 100 meters of working area in the formulating/manufacturing plant.

- (ii) the services of a competent full-time occupational health physician who shall stay in the medical clinic provided for above, at least eight (8) hours a day during the work shift which has the biggest number of workers:
 - (iii) a bathroom with shower and eyewash facilities within or beside the medical clinic provided for above, and
 - (iv) an examining table with capacity to allow trendelenberg position.
- (2) For non-hazardous workplaces:
- (a) in small-scale industries where the number of workers is from 1 to 99, the employer shall provide the services of full-time first-aider who maybe one of the workers in the workplace and who has immediate access to the first-aid ' medicines prescribed under Rule 1963.01. Where the number of workers is from 51 to 99, an emergency treatment room shall be provided.
 - (b) in medium-scale industries where the number of workers is from 100 to 199, the employer shall provide the services of a part-time occupational health nurse who shall stay in the premises of the workplace at least four (4) hours a day, six (6) times a week. Where there are more than one work shift in a day, the nurse shall stay in the workplace during. the shift which has the biggest number of workers. The employer also provide the services of a full-time first-aider and shall maintain in his place of employment an emergency treatment room for his workers.
 - (c) in large-scale industries where the number of workers is from 200 to 600, the employer shall provide the services of a part-time occupational health physician and a part-time dentist each of whom shall stay in the premises. of the workplace at least four (4) hours a day, three (3) times a week, on alternate days with the other. Where there are more than one work shift in a day, the physician and the dentist shall stay in the workplace during the shift which has the biggest number of workers. In addition, the services of a full-time occupational health nurse and a full-time first aider shall be provided. The employer shall maintain in his place of employment an emergency treatment room for his workers.
 - (d) in large-scale industries where the number of workers is from 601 to 2000, the employer shall provide the services of a part-time occupational health physician and a part-time dentist each of whom shall stay in the premises of the workplace at least four (4) hours a day, six (6) times a week working in alternate periods with the other. Where there are more than one work shift in a day, the physician and the dentist shall stay in the workplace during the shift which has the biggest number of workers. The employer shall also provide the services of a full-time occupational health nurse and a full-time first-aider, and maintain in his place of employment an emergency clinic for his workers.
 - (e) in large-scale industries where the number of workers is more than 2000, the employer shall provide the services of a full-time occupational health physician and a full-time dentist, each of whom shall stay in the premises of the workplace eight (8) hours a day, six (6) times a week during the workshift which has the biggest number of workers. In addition, t-he employer shall provide the services of one part-time occupational health physician for each of the other workshift who shall stay in the premises of the workplace at least four (4) hours a day, six (6) times a week. The employer shall also provide the services of a full-time occupational health nurse for every work shift. The employer shall provide the services of a full-time first-alder and shall maintain in his place of employment an emergency medical and dental clinic for his workers.
- (3) For both hazardous and non-hazardous workplaces:

- (a) where there are more than one (1) work shift in a day, the employer shall, in addition to the requirements of this rule, provide the services of a full-time first-aid for every work shift.
- (b) where only a treatment room is provided by the employer under this rule, he shall in addition, provide for his workers in case of emergency, access to the nearest medical/ dental clinic or to a medical/dental clinic located not more than five (5) kilometers away from the workplace. Such access shall be in the form of providing the necessary transportation facilities and a written agreement with the medical/ dental clinic to attend to such emergencies brought to them.
- (c) the physician/dentist required to stay in the workplace during the workshift having the biggest number of workers shall be subject to call at anytime during the other shifts to attend to emergencies.

1963.03 : Emergency Hospital:

- (1) An employer may not establish an emergency hospital or dental clinic in his workplace as required in these regulations where there is a hospital or dental clinic which is located not more than five (5) kilometers away from the workplace, if situated in any urban area, or which can be reached in twenty-five (25) minutes of travel, if situated in a rural area, and the employer has facilities readily available for transporting workers to the hospital or clinic in case of emergency. For purposes of this Rule, the employer shall enter into a written contract with the hospital or dental clinic for the use of such clinic/hospital in the treatment of workers in case of emergency. However, this shall not excuse the employer from maintaining in his place of employment an emergency treatment room for his workers.

1963.04 : Contracts for Occupational Health Services:

- (1) Contracts for occupational health practitioner services entered into by employer shall only be with occupational health practitioners and/or occupational health clinics accredited by the bureau, or with an agency/institution organization duly authorized or recognized by the bureau.
- (2) No occupational health practitioner, whether acting singly or as a part of a group/ association, shall enter into a contract for occupational health practitioner services with more than ten (10) establishments.
- (3) No part-time occupational health physician/nurse shall enter into contract for occupational health services with more than four (4) establishments.
- (4) When a full-time occupational health physician/nurse who is also a qualified occupational health practitioner, has entered into a contract for occupational health services with one (1) establishment, he/she shall not engage himself/herself, with or without a written contract, for the same services with any other establishment.
- (5) Under no circumstances shall an employer enter into a retainership contract for health services in place of the occupational health services provided for under Rule 1960.
- (6) The employer shall furnish the Bureau and the Regional Labor Office concerned a copy each of the contract for Occupational Health Services.

1964 : Training and Qualification:

1964.01 : Qualifications:

- (1) A first-aid must be able to read and write and must have completed a course in first aid conducted by the Philippine National Red Cross or any organization accredited by the same.

- (2) A nurse must have passed the examination given by the Board of Examiners for nurses and duly licensed to practice nursing in the Philippines with at least fifty (50) hours of Basic training in occupational nursing conducted by the Bureau/Region office concerned, the College of Public Health of the University of the Philippines, or by any institution/organization accredited by the former.
- (3) A physician, whether part-time or full-time, must have passed the examination given by the Board of Examiners for Physicians, is licensed to practice medicine in the Philippines, and a graduate of Basic training course in occupational medicine conducted by the Bureau, the College of Public Health of the University of the Philippines, or by any institution/organization duly accredited by the former.
- (4) A physician engaged by the employer of a hazardous establishment employing more than 2,000 workers, to be its full-time occupational health physician must have, in addition to the qualifications required under Rule 1964.01 (3), a diploma or master's degree in occupational health or industrial health or its equivalent or completed a residency training program in occupational medicine, must be duly certified by the Bureau, and must have registered with the Regional Labor Office.
- (5) A dentist, whether part-time or full-time, must have passed the examination given by the Board of Examiners for Dentists, is licensed to practice dentistry in the Philippines, and has completed a basic training course in occupational dentistry, conducted by the Bureau of Dental Health Services of the Department of Health or any organization duly accredited by the same.
- (6) An occupational health practitioner, as defined under Rule 1961.02, must have all of the following qualifications:
 - a. a graduate of an advanced training course in occupational health and safety conducted by the bureau, the College of Public Health of the University of the Philippines, or any institution/organization duly authorized/accredited or recognized by the former;
 - b. must have had at least five (5) years experience in the field of, or practice of occupational health and safety;
 - c. must be duly certified/accredited by the Bureau;
 - d. must have registered with the Regional Office concerned.

1964.02 : Opportunity for Training:

- (1) Nurses, physicians and dentists who do not possess the special training qualifications provided for in Rule 1964.01 shall, within six (6) months from the date of employment, comply with this requirement.
- (2) All employers without the required trained first-aiders on the date of effectivity of this Standards shall, within six (6) months have the required number of his workers undergo the prescribed training in first-aid.

1964.03 : Refresher Training:

The occupational health personnel and the first-aiders of every establishment shall undergo a minimum of eight (8) hours refresher training course in their respective fields at least once a year.

1965 : Duties of Employers:

1965.01 :

It shall be the duty of every employer to:

- (1) Establish in his workplace occupational health services to provide a healthful place of work;
- (2) Adopt and implement a comprehensive health program for his workers;
- (3) Enter into a contract with hospitals or dental clinics, if these are not available in his workplace; and
- (4) Maintain a health record of his programs and activities and submit an annual medical report, using form DOLE/BWC/HSD/OH-47, to the Regional Labor Office concerned, copy furnished the Bureau of Working Conditions on or before the last day of March of the year following the covered period.

1965.02 : Duties of the Occupational Health Physician:

The Occupational Health Physician, whether part-time or full-time, who shall be responsible for promoting and maintaining the health and well-being of the workers, shall have the following duties and functions:

- (1) Organize, administer and maintain an occupational health service program integrating therein an occupational safety program;
- (2) Continually monitor the work environment for health hazards through periodic inspection of the workplace;
- (3) Prevent diseases or injury in the workplace by establishing proper medical supervision over substances used, processes, and work environment;
- (4) Conserve the health of the workers through physical examinations, proper advice for placement and health education;
- (5) Provide medical and surgical care to restore health and earning capacity of injured workers;
- (6) Maintain and analyze records of all medical cases and to prepare and submit to the employer annual medical reports, using form DOLE/BWC/OH-47, as required by this Standards;
- (7) Conduct studies on occupational health within his means and resources;
- (8) Act as adviser to management and labor on all health matters;
- (9) And report directly to top management in order to be effective.

1965.03 : Duties of the Dentist:

The duties of the dentist in the workplace shall be in accordance with the Standards prescribed by the Bureau of Dental Health Services, Department of Health.

1965.04 : Duties of the Occupational Health Nurse:

The duties and functions of the Occupational Health Nurse are:

- (1) In the absence of a physician, to organize and administer a health service program integrating occupational safety, otherwise, these activities of the nurse shall be in accordance with the physician;

- (2) Provide nursing care to injured or ill workers;
- (3) Participate in health maintenance examination. If a physician is not available, to perform work activities which are within the scope allowed by the nursing profession, and if more extensive examinations are needed, to refer the same to a physician;
- (4) Participate in the maintenance of occupational health and safety by giving suggestions in the improvement of working environment affecting the health and well-being of the workers; and
- (5) Maintain a reporting and records system, and, if a physician is not available, prepare and submit an annual medical report, using form DOLE/BWC/HSD/OH-47, to the employer, as required by this Standards.

1965.05 : Duties of the First-Aider:

The duties of the First-Aider are to:

- (1) Give immediate temporary treatment in case of injury or illness, before the services of a physician becomes available. If the case needs a physician the first-aider shall immediately call or refer the injured to one;
- (2) Participate in the maintenance of occupational safety and health programs, if a member of the Safety Committee; and
- (3) Maintain medical services and facilities.

1965.06 : Duties of the Occupational Health Practitioner:

The duties of the occupational health practitioner are to:

- (1) Advise the employers, the workers and their representatives in the workplace the necessary requirements in establishing and maintaining a safe and healthful working environment which will facilitate optimal physical and mental health for workers;
- (2) Conduct periodic inspection of the workplace as required under Rule 1961.04;
- (3) Act as adviser to the employer, workers and their representatives in matters concerning the organization, administration and maintenance of an occupational health program; and
- (4) Maintain a reporting and records system and prepare and submit an annual medical report for the employer, using form DOLE/BWC/HSD/OH-47, as required by this Standards.

1966 : Occupational Health Program:

1966.01 :

The employer shall organize and maintain an occupational health program to achieve the following objective:

- (1) Assess the worker's physical, emotional and psychological assets as well as his liabilities in order to facilitate his proper placement and ensure the suitability of individuals according to their physical capacities, mental abilities and emotional make-up in work which they can perform with an acceptable degree of efficiency without endangering their own health and safety and that of their co-workers;
- (2) Protect employees against health hazards in their working environment in order to prevent occupational as well as non-occupational diseases;

- (3) Provision for first-aid, emergency services and treatment depending on the nature of the industry;
- (4) Assure adequate medical care of ill and injured workers;
- (5) Encourage personal health maintenance and physical fitness and proper nutrition practices; and
- (6) Provide guidance, information and services for family planning programs.

1966.02 :

The Health Program shall include the following activities:

- (1) Maintenance of a healthful work environment by requiring occupational health personnel to conduct regular appraisal of sanitation conditions, periodic inspection of premises, including all facilities therein, and evaluate the working environment in order to detect and appraise occupational health hazards and environmental conditions affecting comfort and job efficiency;
- (2) Health Examinations:
 - a) Entrance;
 - b) Periodic;
 - c) Special examination;
 - d) Transfer examination;
 - e) Separation examination.
- (3) Diagnosis and treatment of all injuries and occupational and non-occupational diseases;
- (4) Immunization programs; and
- (5) Accurate and complete medical records of each worker starting from his first examination or treatment, which must be under the exclusive custody and control of the occupational health personnel. Such records shall be made available to the worker or his duly authorized representative and shall not be used for discriminatory purpose or in any other manner prejudicial to his interest.
- (6) Health Education and Counseling in which the occupational health and safety personnel shall cooperate with the supervisors in imparting appropriate health and safety information to employees, such as health hazards and proper precautions, habits of cleanliness, orderliness, safe work practices, use and maintenance of available personal protective clothing and devices, and the use of available health services and facilities; and
- (7) Nutrition program which shall be under the dietician and supervised by a physician if the latter is present.

1967 : Physical Examination:

- (1) All workers, irrespective of age and sex, shall undergo physical examination:
 - a. before entering employment for the first time;

- b. periodically, or at such intervals as may be necessary on account of the conditions or risks involved in the work;
 - c. when transferred or separated from employment; and
 - d. when injured or ill.
- (2) All examinations shall:
- a. be complete and thorough;
 - b. be rendered free of charge to the workers; and
 - c. include X-ray or special laboratory examinations when necessary due to the peculiar nature of the employment.
- (3) The results of these physical examinations shall be recorded carefully and legibly on appropriate forms by the health service personnel charged with such responsibility.
- (4) Records of physical examinations and all information obtained by the health personnel shall be considered strictly confidential.

1967.01 : Pre-employment/Pre-placement Physical Examinations:

- (1) Pre-employment Physical examination shall be conducted:
- a. to determine the physical condition of the prospective employee at the time of hiring; and
 - b. to prevent the placement of a worker on a job where, through some physical or mental defects, he may be dangerous to his fellow workers or to property.
- (2) Pre-employment physical examination shall:
- a. be a general clinical examination including special laboratory examinations when necessary due to the peculiar nature of the workers prospective employment;
 - b. include chest x-ray examinations. Under the following circumstances, x-ray examinations be rendered free of charge.
 - i. where the employer or establishment is required by these Rules to engage the services of an Occupational Health physician and where there are x-ray facilities in the establishment;
 - ii. where the employer does not maintain such facilities, x-ray examinations shall be conducted by;
 - aa. government clinics or hospitals;
 - bb. the occupational health physician; and
 - cc. private clinics or hospitals when applicants are referred to them.
 - iii. in all other instances, the applicant shall pay the cost of the examination.
- (3) At the completion of the examination, the applicant shall be rated as follows:

- CLASS A - Physically fit for any work
- CLASS B - Physically under-developed or with correctible defects, (error of refraction dental caries, defective hearing, and other similar defects) but otherwise fit to work,
- CLASS C - Employable but owing to certain impairments or conditions, (heart disease, hypertension, anatomical defects) requires special placement or limited duty in a specified or selected assignment requiring follow-up treatment/ periodic evaluation.
- CLASS D - Unfit or unsafe for any type of employment (active PTB, advanced heart disease with threatened failure, malignant hypertension, and other similar illnesses).

1967.02 : During Employment:

1967.03 : Periodic Annual Medical Examinations:

Periodic annual medical examinations shall be conducted in order to follow-up previous findings, to allow early detection of occupational and non-occupational diseases, and determine the effect of exposure of employees to health hazards. These examinations:

- (1) Shall be as complete and as thorough as the pre-employment examinations and include general clinical examinations.
- (2) Shall include all special examinations and/or investigations deemed necessary for the diagnosis of these diseases which will be free of charge in case the workers are exposed to occupational health hazards.
- (3) Shall include, whenever feasible, a chest x-ray examination at least once a year which shall be rendered free of charge to the workers,
- (4) Shall be as frequent as the nature of employment may warrant taking into consideration the special hazards involved and their relative importance.
- (5) Shall include regular biochemical monitoring which shall be conducted free of charge for workers exposed to toxic substances/pesticides classified under toxicity categories I and II of the World Health Organization (WHO) toxicity classification standards.
- (6) Shall have an interval of not longer than one year between two (2) consecutive periodic physical examinations.

1967.04 :

In occupations where there is a risk to the health of the worker either due to toxic substances they handle or of the environment in which they work, only persons who are pronounced medically fit shall be employed.

1967.05 :

When occupational disease have been detected . in workers and continued employment might jeopardize their health, their employment shall be discontinued until after their complete or satisfactory recovery. If circumstances permit, such workers shall meanwhile be given some other job consistent with their state of health and which shall not impede or retard their recovery.

1967.06 : Transfer Examinations:

Applicants examined for employment and accepted for specific work or job shall not be transferred to another work or job until they have been examined by the physician and certified that the transfer is medically advisable.

1967.07 : Other Special Examinations:

Special examinations may be required where there is undue exposure to health hazards, such as lead, mercury, hydrogen sulfide, sulfur dioxide, nitro glycol and other similar substances.

1967.08 : Return to Work Examinations:

A return to work examination shall be conducted:

- (1) to detect if illness of the worker is still contagious;
- (2) to determine whether the worker is fit to return to work, and
- (3) After prolonged absence for health reasons, for the purpose of determining its possible occupational causes.

1967.09 : Separation from Employment Examination:

An employee leaving the employment of the company shall, if necessary, be examined by the occupational health physician:

- (1) to determine if the employee is suffering from any occupational disease;
- (2) to determine whether he is suffering from any injury or illness which has not completely healed; and
- (3) to determine whether he has sustained an injury.

**RULE 1970
FEES**

1971 : General Provisions:

- (1) In the conduct of the administration and enforcement of this Standards, reasonable fees shall be collected for such services except for technical safety inspection. Fees for technical safety inspection shall be as provided in the National Building Code of the Philippines, PD 1096, and shall be paid to the Building Official.
- (2) All fees collected shall be covered by official receipts.
- (3) The amount collected shall be deposited with the National Treasury to the credit of the Department of Labor and Employment.

1972 : Explosives:

- (1) Safety Inspection Fees
 - (a) For explosive plants with five (5) or less Class I magazine..... P600.00
For additional Class I magazine in excess of five (5) f 600.00..... 40.00
 - (b) For plants manufacturing explosive with five (5) or less
Class II magazine..... 40.00
For every additional Class II magazine in excess of five (5)..... 20.00
 - (c) For non-manufacturing establishments maintaining Class I
magazine..... 200.00
For every additional Class II magazine..... 20.00
 - (d) For non-manufacturing establishments maintaining
two (2) or less Class 11 magazines..... 100.00
For every additional Class II magazine in excess of two (2)..... 10.00
- (2) Plan Checking Fee:
 - (a) Explosive Plants..... 200.00
 - (b) Magazine for non-manufacturing plants..... 40.00
Class I..... 40.00
Class 11..... 10.00

1973 : Local Fabrication of Boilers/Pressure Vessels:

Schedule of Service Fees:

- 1. Plan checking fees:
 - (a) For checking fabrication plans of steam boiler up to 50 horsepower.....P60.00
over 50 to 200 hp..... 200.00
over 200 to 500 hp..... 350.00
over 500 hp..... 600.00
 - (b) For checking fabrication plans for pressure vessels up to 5.cu. ft..... 15.00
over 5 cu. ft. to 10 cu ft..... 25.00
over 10 cu. ft. to 30 cu ft..... 30.00
over 30 cu. ft. to 50 cu ft..... 40.00

over 50 cu. ft. to 100 cu ft.....50.00
 for every cu. ft or fraction thereof in excess of 100 cu. ft.....1.00

2. Inspection Fees:

- (a) For inspection during fabrication:
 - boiler up to 10 hp..... 120.00
 - over 10 hp to 20 hp..... 145.00
 - over 20 hp to 30 hp..... 170.00
 - over 30 hp to 40 hp..... 200.00
 - over 40 hp to 50 hp..... 240.00
 - over 50 hp to 60 hp..... 300.00
 - over 60 hp to 70 hp..... 340.00
 - over 70 hp to 80 hp..... 360.00
 - over 80 hp to 90 hp..... 390.00
 - over 90 hp up to 100 hp.....420.00
 - For each horsepower of fraction thereof in excess of 100 hp..... 1.50

- (b) For the examination and inspection during fabrication of pressure vessels up to:
 - 5 cu ft..... P15.00
 - over 5 cu., ft. to 10 cu. ft..... 25.00
 - over 10 cu. ft. to 30 cu. ft..... 40.00
 - over 30 cu. ft. to 50 cu. ft..... 50.00
 - over 50 cu. ft. to 100 cu. ft..... 70.00
 - For every cu. ft. or a fraction thereof in excess of 100 cu. ft..... 5.00

1974 : Certificates of Safety Practitioners/Consultants:

- (1) Consulting Organizations/Consultants:
 - (a) Certificates..... P200.00
 - (b) Annual Fee..... 100.00

- (2) Safety Practitioners:
 - (a) Certificates..... 100.00
 - (b) Annual Fee..... 20.00

RULE 1980
AUTHORITY OF LOCAL GOVERNMENT

1981 : General Provisions:

- (1) The Department shall be solely responsible for the administration and enforcement of occupational safety and health laws in all workplaces. However, local governments may be authorized by the Secretary to enforce this Standards within their respective jurisdictions where they have adequate facilities and personnel for the purpose as determined by and subject to national standards prescribed by the Department.
- (2) The Department or such other duly authorized engineers and other national government agents, as the Secretary may designate, shall enforce the requirements of the Electrical Engineering Law pertaining to the installation, operations, tending and maintenance of electric generating plans and pass upon applications for electrical construction or installation within their respective jurisdiction in all cases which are not acted upon by the Board of Power and Waterworks, the Department of National Defense, and the Bureau of Customs, and shall issue the corresponding permits if the plans and/or specifications submitted are in conformity with the provisions of this Standards.

1981.01 : Types of Inspection:

For the purpose of this Standards, inspection activities shall be divided into Technical Safety Inspection and General Safety Inspection.

- (1) Technical Safety Inspection - shall refer to inspection for the purpose of safety determination of boilers, pressure vessels, internal combustion engines, electrical installations, elevators, hoisting equipment and other mechanical equipment.
- (2) General Safety Inspection - shall refer to inspection of the work environment, including the location and operation of machinery other than those covered by technical safety inspections. adequacy of work space, ventilation, lighting, conditions of work environment, handling, storage or work procedures, protection facilities and other safety and health hazards in workplace.

1982 : Authority to Chartered Cities:

The Department may delegate enforcement of this Standards to chartered cities, subject to the conditions provided herein, the authority to conduct technical safety inspection in workplaces within their respective jurisdictions, together with the undertaking of other related activities.

1982.01 : City Service Plan:

Chartered cities that desire to assume responsibility for technical safety inspection as defined above shall submit a request to the Secretary, through the Regional Labor Office concerned with the following requirements:

- (1) A plan containing:
 - a. Copy of the city ordinance or other appropriate authority enabling the city to establish and operate a safety service adequate for the purpose of technical safety inspection;
 - b. A description of the safety service as organized, including its organizational structure, statement of functions, name and qualifications of each personnel, tools and equipment available, and where the service shall be organizationally attached;

- c. An undertaking that the safety standards established by the Department including rules, standards and orders shall be complied with in the conduct of the activities of the service;
- d. The number of establishments to be covered by inspection activities of the service; and
- e. An undertaking that the reports required by said standards, rules and orders shall be submitted to the Department.

(2) Personnel:

Every safety service shall, for the purpose of technical safety inspection as provided herein, have at least one professional mechanical or electrical engineer for the first five hundred (500) inspectionable units and one registered mechanical or electrical engineer or master electrician for every other five hundred (500) inspectionable units depending on the safety service applied for, with the necessary clerical support personnel.

(3) Tools, Equipment and Other Facilities:

Every city safety service authorized to conduct technical safety inspection shall be equipped with the following:

- a. Slide rule
- b. Collapsible steel tape
- c. Engineering Scale
- d. Flashlight
- e. Boiler testing hammer
- f. Depth gauge, micrometer, inside and outside caliper
- g. Inspector's test pressure gauge
- h. Sealing pliers
- i. Hook-on volt ammeter
- j. Megger tester
- k. Safety goggle
- l. Tachometer
- m. Hard hat
- n. Safety shoes

The Department may add to this list of tools or equipment as the nature of the work may require.

1982.02 : Processing and Approval of Request:

The Bureau shall conduct the necessary investigations to determine the capability of the city-applicant to conduct technical safety inspection in their respective jurisdictions. The city concerned shall make available all the facilities and the cooperation necessary for the proper conduct of such investigations. The request for authority shall be given due course if the Secretary is satisfied upon the completion of such investigation that the city safety service is adequate for the purpose of technical safety inspections, subject to such conditions as the Secretary may prescribe, otherwise the applicant shall be informed on how it can meet the prescribed requirements.

1982.03 : Effectivity of Authority:

- (1) The authority delegated to chartered cities shall take effect upon approval by the Secretary of the plan after all the necessary administrative arrangement have been completed and the Secretary, after proper investigation, is satisfied that the undertakings contained in the Plan have been complied with
- (2) The authority delegated shall specify the technical areas and related activities for which it is granted.

1982.04 : Duration of Authority:

The authority delegated to chartered cities by the Secretary shall be effective until otherwise withdrawn by him, after proper investigation, on grounds of failure of the city safety service to undertake its work in accordance with this Rule, the plan as approved, and the appropriate standards, rules and regulations established by the Department.

1982.05 : Evaluation of Performance:

For the purpose of Rule 1982.04 hereof, the Secretary or his authorized representative shall from time to time verify compliance by the city safety service with the issuance therein stated, including spot-checking of tools and equipment used in the safety service, inspectionable units and establishments.

1982.06 : Assistance to City Safety Service:

The Department shall render assistance to any City Safety Service upon request in all matters affecting the performance of its safety functions.

1983 : Authority of Municipalities:

A municipality which desires to assume authority to conduct technical safety inspection shall follow the procedure prescribed in 1982.01. The Secretary shall evaluate, reject or withdraw such plan in the same manner provided by this Rule.

1984 : Authority of Other Government Agencies:

The Secretary may authorize other government agencies to conduct technical safety inspection as may be necessary in the attainment of the objectives of such agencies and the demands of national development. The application for authority shall be as required in this Rule.

1985 : Application of this Standards to Existing Plans and Authorities:

All plans and authorities granted prior to the approval of this Standards shall remain in fun force for one year from the date this Standards takes effect. After said period, such plans and authorities shall be revised to conform with the provisions of this Standards.

1986 : Duplication of Inspection:

- (1) Where a delegation of authority has been granted, the Secretary shall not conduct similar inspection activities in the area covered by the delegation unless the authority is revoked or for audit purposes; and
- (2) In the case of mobile inspectionable units, such as portable boilers, pressure vessels, and other similar units, the necessary annual inspection shall be conducted and the inspection fee paid only once a year regardless of the subsequent location of such inspectionable unit within the fee year.

RULE 1990 FINAL PROVISION

1991 : False Statement or Representation:

Upon the effectivity of this Standards, it shall be unlawful for any person to make any statement, report or representation, as may be required for the effective implementation of the provisions of this Standards, knowing such statement, report or representation to be false in any material respect.

1992 : Separability:

If any provision of this Standards or the application of such provision to any person or circumstance shall be declared invalid, the remainder of this Standards and the application of such provision to other persons or circumstances shall not be affected thereby.

1993 : Resolution of Conflicts and Overlapping Jurisdictions:

In case any Rule in this Standards conflicts, duplicates or overlaps with regulations or rules prepared and implemented by other government agencies, such conflict, duplication or overlapping shall be resolved by coordination or any other means of cooperation among such agencies.

1994 : Repeal of Prior Safety Orders:

All occupational safety and health rules, standards, orders or parts thereof which are inconsistent with this Standards are hereby repealed.

1995 : Penal Provisions:

All violations of the provisions of this Standards shall be subject to the applicable penalties provided for in the Labor Code, PD 442 as amended.

1996 : Effectivity

This Standards shall take effect fifteen (15) days after its approval.

APPROVED:


BLAS F. OPLE
Minister

RECOMMENDED:


ANTONIO M. NUESA
Director
Bureau of Labor Standards

ATTESTED:


AMADO G. INCIONG
Deputy Minister

8 December 1978

FINAL PROVISION

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DEPARTMENT ORDER NO. 20

By virtue of the powers vested in the Secretary of Labor and Employment under Article 162, Book IV of the Labor Code of the Philippines, the following amendments to the Occupational Safety and Health Standards are hereby promulgated:

- Rule 1000 - General Provisions
- Rule 1010 - Other Safety Rules
- Rule 1020 - Registration
- Rule 1030 - Training of Personnel in Occupational Safety and Health
- Rule 1030 - Health and Safety Committee
- Rule 1060 - Premises of Establishments
- Rule 1070 - Occupational Health and Environmental Control
- Rule 1080 - Personal Protective Equipment and Devices
- Rule 1090 - Hazardous Materials
- Rule 1100 - Gas and Electric Welding and Cutting Operations
- Rule 1150 - Materials Handling and Storage
- Rule 1160 - Boiler
- Rule 1200 - Machine Guarding
- Rule 1220 - Elevators and Related Equipment
- Rule 1230 - Identification of Piping System
- Rule 1940 - Fire Protection and Control
- Rule 1950 - Pesticides and Fertilizers
- Rule 1960 - Occupational Health Services
- Rule 1970 - Fees

Appendix:

- Table 3.1 - Materials for "U" Guards
- Table 11 - Standard Colors of Signs for Safety Instructions and Warnings in Building Premises
- Table 25-a - Size of Letters for Various Diameter of Pipes
- Table 25-b - Identification of Piping by Color or Color Bands
- Table 25-c - Lettered Legend for Positive Identification
- Table 25-d - Color of Legend Letters
- Figure 20 - Legend Placement- Width of Color Bands
- Table 47 - Table of Medicines, Medical Supplies and Facilities
- DOLE/BWC/HSD/OH-47-A - Annual Medical Report

The abovementioned amendments of the Occupational Safety and Health Standards shall take effect fifteen (15) days after announcement of their adoption in a newspaper of general circulation.

11 August 1989



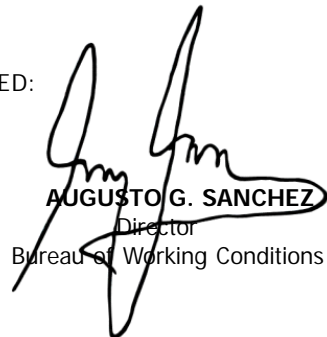
FRANKLIN M. DRILON
Secretary

ATTESTED:



RICARDO C. CASTRO
Undersecretary

RECOMMENDED:



AUGUSTO G. SANCHEZ
Director
Bureau of Working Conditions

TABLE 3.1 Materials for "U" Guards

Material	A Clearance At All Points (mm)	B Largest Mesh or Opening Allowance (mm)	C Minimum Gauge Or Thickness (mm).....Gauge No.	D Min. Height of Guard from Floor Platform Level (mm)
Woven Wire.....	Under 100	10	10..... 1.6 mm (No.16)	1800-0
Woven Wire.....	100 - 380	50	50..... 2.8 mm (No.12)	1500-0
Expanded Metal.....	Under 100	10	10..... 1.25 mm (No.18)	1800-0
Expanded Metal.....	100 - 380	50	50..... 2.36 mm (No.13)	1500-0
Perforated Metal.....	Under 100	10	10..... 1.00 mm (No.20)	1800-0
Perforated Metal.....	100 - 380	50	50..... 2.00 mm (No.14)	1500-0
Sheet Metal.....	Under 100	-	.80 mm (No.22)	1800-0
Sheet Metal.....	100 - 380	-	.80 mm (No.22)	1500-0
Plywood or Equivalent.....	Under 100	-	6	1800-0
Plywood or Equivalent.....	100 - 380	-	6	1500-0
Solid Wood.....	Under 100	-	25	1800-0
Woven Wire.....	100 - 380	-	25	1500-0
Wood or Metal Strip Crossed.....	Under 100	10	Wood 19 Metal 1.60 mm (No.16)	1800-0
Wood or Metal Strip Crossed.....	100 - 380	50	Wood 19 Metal 1.60 mm (No.16)	1500-0
Wood or Metal Strip Crossed.....	Under 100	100 width	Wood 19 Metal 1.60 mm (No.16)	
Wood or Metal Strip Crossed.....	100 - 380	25 width	Wood 19 Metal 1.60 mm (No.16)	
Standard Rail	Min. 380	See Standard for Railings		
Standard Rail	Max.380	See Standard for Railings		

(Reference: PSME Code-1984)

**TABLE II
Standard Colors of Signs for Safety Instructions
and Warnings in Building Premises**

A. Standard Color of Signs

1. **Red** **Fire Protection.** To call attention to fire protection equipment apparatus and facilities;
Examples:
 - Fire stations and equipment (extinguishers, pumps, buckets, hose, hydrants)
 - Fire extinguishing systems (valves, alarm, sprinkler, piping, etc.)
 - Fire protection materials (doors, blankets, extinguishing agents)
 - To identify Danger, Stop Signals (red lights placed on barricades at temporary obstruction or on temporary construction; stop buttons for electrical switches used for the emergency stopping of machinery; emergency stop bards on hazardous machines such as rubber mills.

2. **Green** **Safety.** Designating "safety"
Examples:
 - location of first-aid equipment; location of safety and allied devices; safetybulletin boards

3. **White** **Traffic.** White, black, or a combination of these are the basic colors for the designation of traffic and housekeeping marking. Solid white, solid black, single color stripping or alternate stripes of black and white.
Examples:
 - (housekeeping)
location of refuse cans; white corners for rooms or passageways, drinking fountains and food dispensing equipment location
 - traffic)
location and width of aiseways; dead ends of aisles or passageways; stairways and directional signs
4. **Yellow** **Caution.** To designate 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 shall be used interchangeably, using the combination which will attract the most attention in the particular environment.
Examples:
 - construction equipment, such as bull-dozers, tractors, handrails, guardrails, or top and bottom treads or stairways where caution is needed lower pulley blocks and carnes; piping systems containing dangerous materials; waste container for explosive or highly combustible materials.
5. **Orange** **Alert.** To designate 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.
Examples:
 - To designate the sign "Do not open or remove"
(the inside of movable guards; safety starting buttons and boxes; exposed parts of gears, pulleys, rollers, cutting devices; inside of the box door or cover of open fuse, power and electrical switch boxes).
6. **Blue** **Precaution.** To designate caution, limited to warning against starting, use of, or the movement of equipment which is under repair or being worked upon.
Examples:
 - "Men at Work"
signals for railroad tracks (if men are working or if tank cars are connected, or similar work)
 - "Under Repair"
signals warning of danger against use while undergoing repairs (elevators, kiln, boilers, electrical controls, ladders, scaffolding, vaults, etc.)
6. **Purple** **Radiation.** To designate hazards. Yellow is used in combination with purple for markers, such as tags, labels, signs and floor markers.

B. Overall Dimensions of Safety Signs

$$S \geq \frac{L^2}{2000}$$

S & L expressed in the same unit of measurement
S = Area of Safety Sign
L = Distance of Observation

-
- References: 1. ANSI-(Safety Color Code for Marking Physical Hazards)
2. Industrial Safety (Series G) Instructors Guide by U.S. Department of Labor, Bureau of Labor Standards
3. British Standards 4399

**TABLE 6
TABULATION OF SCHEDULED CHARGES**

A. For Loss of Member - Traumatic or Surgical

FINGERS, THUMB, and HEAD

Amputation Involving All Part of Bone* Thumb		Index	Fingers		
			Middle	Ring	Little
Distal phalange	300	100	75	60	50
Middle phalange	-	200	150	120	100
Proximal phalange	600	400	300	240	200
Metacarpal	900	600	500	450	400

TOE, FOOT, and ANKLE

Amputation Involving All Part of Bone*	Great Toe	Each of Other Toes	
Distal phalange	150	35	
Middle phalange	-	75	
Proximal phalange	300	150	
Metacarpal	600	350	
Foot at ankle			2,400

ARM

Any point above elbow, including joint	4,500
Any point above ankle and or below elbow	3,600

LEG

Any point above knee	4,500
Any point above ankle and or below knee	300

B. Impairment of Function

One eye (loss of sight), whether or not there is sight in the other eye	1,800
Both Eyes (loss of sight), in one accident	6,000
One Ear (complete loss of hearing), whether or not there is hearing in the other ear	600
Both Ears (complete industrial loss of hearing), in one accident	3,000
Unrepaired Hernia	50

If one bone is not involved, use actual days lost, and classify as temporary total disability. The left of the distal bone of a finger or toe is considered bone if it shows in x-rays.

For loss of use, without amputation, see 1065.01 (5)

The term "above" when applied to the arm means toward the shoulder, and when applied to the leg means toward the hip.

TABLE 8
THRESHOLD LIMIT VALUES FOR AIRBORNE CONTAMINANTS

Substances	ppm*	Mg/M ³ **
Acetaldehyde.....	200	360
Acetic Acid.....	10	25
Acetic Anhydride.....	5	20
Acetone.....	1,000	2,400
Acetonitrile.....	40	70
Acetylene Dichloride, see 1, 2 Dichloroethylene.....		
Acetylene Tetrabromide.....	1	14
Acrolein.....	0.1	0.25
Acrylamide-Skin.....	-	0.3
Acrylonitrile-Skin.....	20	45
Aldrin-Skin.....	-	0.25
Allyl Alcohol-Skin.....	2	5
Allyl Chloride.....	1	3
Allyl Glycidyl Ether (AGE).....	10	45
Allyl Propyl Disulfide.....	2	18
2 Aminoethanol, see Ethanolamine.....		
2-Aminopyridine.....	0.5	2
Ammonia.....	50	30
Ammonium Sulfanate (Ammate).....	-	15
n-Amyl Acetate.....	100	525
sec-Amyl Acetate.....	125	650
Aniline-Skin.....	5	19
Anisidine (o, p-isomers)-Skin.....	-	0.5
Antimony & Compounds (as Sb).....	-	0.5
ANTU (Alpha Naphthyl Thiourea).....	-	0.3
Arsenic & Compounds (as As).....	-	0.5
Arsine.....	0.05	0.2
Azinphos-Methyl-Skin.....	-	0.2
Barium (Soluble Compounds).....	-	0.5
^o Benzene (Benzol)-Skin.....	25	80
Benzidine-Skin.....	-	A ¹
p-Benzoquinone, see Quinone.....		
Benzoyl Peroxide.....	-	5
Benzyl Chloride.....	1	5
Beryllium.....	-	0.002
Biphenyl, see Diphenyl.....		
Boron Oxide.....	-	15
^o Boron Trifluoride.....	1	3
Bromine.....	0.1	0.7
Bromoform-Skin.....	0.5	5
Butadiene (1, 3-Butadiene).....	1,000	2,200
Butanethiol, see Butyl Mercaptan.....		
2-Butanone.....	200	590
2-Butoxy-Ethanol (Butyl Cellosolve)-Skin.....	50	240
n-Butyl Acetate.....	150	710
sec-Butyl Acetate.....	200	950
tert-Butyl Acetate.....	200	950

*Parts of vapor or gas per million parts of air plus vapor by volume at 25°C and 760 mm. Hg pressure.

**Approximate milligrams of particulate per cubic meter of air.

Ceiling Value.

^oCeiling Value.

Substances	ppm*	Mg/M ³ **
Butyl Alcohol.....	100	300
sec-Butyl Alcohol.....	150	450
tert-Butyl Alcohol.....	100	300
°Butylamine-Skin.....	5	15
°tert, Butyl Chromate (as CrO ₃)-Skin.....	-	0.1
n-Butyl Glycidyl Ether (BGE).....	50	270
Butyl Mercaptan.....	10	35
p-tert, Butyltoluene.....	10	60
Cadmium (Metal Dust and Soluble Salts).....	-	0.2
°Cadmium Oxide Fume as Cd.....	-	0.1
Calcium Arsenate.....	-	1
Calcium Oxide.....	-	5
Camphor (Synthetic).....	2	12
Carbaryl (Sevin)(R).....	-	5
Carbon Black.....	-	3.5
Carbon Dioxide.....	5,000	9,000
Carbon Disulfide-Skin.....	20	60
Carbon Monoxide.....	50	55
Carbon Tetrachloride-Skin.....	10	65
Chlordane-Skin.....	-	0.5
Chlorinated Camphene-Skin.....	-	0.5
Chlorinated Diphenyl Oxide.....	-	0.5
Chlorine.....	1	3
Chlorine Dioxide.....	0.1	0.3
°Chlorine Trifluoride.....	1	0.4
°Chloroacetaldehyde.....	1	3
a-Chloroacetophenone (Phenacyl-Chloride).....	0.05	0.3
Chloron Benzene (Monochlorobenzene).....	75	350
o-Chlorobenzylidene Malononitrite (OCBM).....	0.5	0.4
Chlorobromomethane.....	200	1,050
2-Chloro-1, 3 Butadiene, see Chloroprene.....		
Chlorodiphenyl (42% Chlorine)-Skin.....	-	1
Chlorodiphenyl (54% Chlorine)-Skin.....	-	0.5
1, Chloro, 2, 3 Epoxypropane, see Epichlorhydrin.....		
2, Chloroethanol, see Ethylene Chlorohydrin.....		
Chloroethylene, see Vinyl Chloride.....		
°Chloroform (trichloromethane).....	50	240
1-Chloro-1-Nitropropane.....	20	100
Chloropicrin.....	0.1	0.7
Chloroprene (2-Chloro-1, 3-Butadiene)-Skin.....	25	90
Chromic Acid and Chromates (as CrO ₃).....	-	0.1
Chromium, Soluble Chromic, Chromus Salts, as Cr.... Metallic & Insoluble Salts.....	-	0.5 1
Coal Tar Pitch Volatiles (Benzene Soluble Fraction)(Anthracene, BaP, Phenanthrene, Acridine, Schrysene, Pyrene).....	-	0.2
Cobalt, Metal Fume & Dust.....	-	0.1
Copper Fume.....	-	0.1
Dusts and Mists.....	-	1.0
Cotton Dust (Raw).....	-	1
Crag (R) Herbicide.....	-	15

*Parts of vapor or gas per million parts of air plus vapor by volume at 25°C and 760 mm. Hg pressure.

**Approximate milligrams of particulate per cubic meter of air.

Ceiling Value.

°Ceiling Value.

Substances	ppm*	Mg/M ³ **
Cresol (All isomers)-Skin.....	5	22
Crotonaldehyde.....	2	6
Cumene-Skin.....	50	245
Cyanide (as CN)-Skin.....	-	5
Cyclohexane.....	300	1,050
Cyclohexanol.....	50	200
Cyclohexanone.....	50	200
Cyclohexone.....	300	1,015
Cyclopentadiene.....	75	200
2, 4-D.....	-	10
DDT-Skin.....	-	1
DDVP-Skin (Dichlovos).....	-	1
Decaborane-Skin.....	0.05	0.3
Demeton (R-Skin).....	-	0.1
Diacetone Alcohol (4-Hydroxy-4 Methyl-2-Pentanone).....	50	240
1, 2 Diaminoethane, Ethylenediamine.....		
Diazomethane.....	0.2	0.4
Diborane.....	0.1	0.1
^c 1, 2-Dibromo-Ethane-Skin.....	25	190
Dibutyl Phosphate.....	1	5
Dibutylphthalate.....	-	5
^c 0-Dichlorobenzene.....	50	300
p-Dichlorobenzene.....	75	450
Dichlorodifluoromethane.....	1,000	4,950
1, 3-Dichloro-5, 5-Dimethyl Hydantoin.....	-	0.2
1, 1-Dichloroethane.....	100	400
1, 2-Dichloroethane.....	50	200
1, 2-Dichloroethylene.....	200	790
^c Dichloroethyl Ether-Skin.....	15	90
Dichloromethane, see Methylenechloride.....		
Dichloromonofluoroethane.....	1,000	4,200
^c 1, 1-Dichloro-1-nitroethane.....	10	60
1, 2-Dichloropropane, see Propylenedichloride.....		
Dichlorotetrafluoroethane.....	1,000	7,000
Dieldrin-Skin.....	-	0.25
Diethylamine.....	25	75
Diethylamino Ethanol-Skin.....	10	50
Diethylether, see Ethyl Ether.....		
Diisopropylamine-Skin.....	5	20
Difluorodibromomethane.....	100	860
^c Diglycidyl Ether (DGE).....	0.5	2.8
Dihydroxybenzene, see Hydroquinone.....		
Diisobutyl Ketone.....	50	290
Dimethoxymethane, see Methylal.....		
Dimethyl Acetamide-Skin.....	10	35
Dimethylamine.....	10	18
Dimethylaminobenzene, see Xylidene.....		
Dimethyl 1, 2-Dibromo-2, 2-Dichloroethyl Phosphate (Dibrom) (R).....	-	3
2, 6-Dimethyl-4-Heptanone, see Diisobutyl Ketone.....		
1, 1-Dimethylhydrazine-Skin.....	0.5	1

*Parts of vapor or gas per million parts of air plus vapor by volume at 25°C and 760 mm. Hg pressure.

**Approximate milligrams of particulate per cubic meter of air.

Ceiling Value.

^cCeiling Value.

Substances	ppm*	Mg/M ³ **
Dimethylphthalate.....	-	5
Dimethylsulfate-Skin.....	1	5
Dinitrobenzene (All Isomers)-Skin.....	-	1
Dinitro-o-Cresol-Skin.....	-	0.2
Dinitrotoluene-Skin.....	-	1.5
Dioxane (Diethylene Dioxide)-Skin.....	100	360
Diphenyl.....	0.2	1
Dipropylene Glycol Methyl Ether-Skin.....	100	600
Di-Sec, Octyl Phtalate (Di-2-Ethylhexyphthalate).....	-	5
Endrin-Skin.....	-	0.1
Epichlorhydrin-Skin.....	5	19
EPN-Skin.....	-	0.5
1, 2-Epoxypropane, see Propyleneoxide.....		
2, 3-Epoxy-1 Propanol, see Glycidol.....		
Ethanethiol, see Ethylmercaptan.....		
Ethanolamine.....	3	6
2 Ethoxyethanol-Skin.....	200	740
2 Ethoxyethylacetate (Cellosolve Acetate)-Skin.....	100	540
Ethyl Acetate.....	400	1,400
Ethyl Acrylate-Skin.....	25	100
Ethyl Alcohol (Ethanol).....	1,000	1,900
Ethylamine.....	10	18
Ethyl Sec-Amyl Ketone (5-Methyl-3-Heptanone).....	25	130
°Ethyl Benzene.....	100	435
Ethyl Bromide.....	200	890
Ethyl Butyl Ketone (3-Heptanone).....	50	230
Ethyl Chloride.....	1,000	2,600
Ethyl Ether.....	400	1,200
Ethyl Formate.....	100	300
°Ethyl Mercaptan.....	10	25
Ethyl Silicate.....	100	850
Ethylene Chlorohydrin-Skin.....	5	16
Ethylenediamine.....	10	25
Ethylene Dibromide, see 1, 2-Dibromo-Ethane.....		
Ethylene Dichloride, see 1, 2-Dichloro-Ethane.....		
°Ethylene Glycol Dinitrate-Skin.....	0.2	1.2
°Ethylene Glycol Dinitrate &/or Nitroglycerin-Skin.....	0.02	0.1
Ethylene Glycol Monomethyl Ether Acetate, see Methyl Cellosolve Acetate.....		
Ethylene Imine-Skin.....	0.5	1
Ethylene Oxide.....	50	90
Ethylidene Chloride, see 1, 1-Dichloroethane.....		
N-Ethylmorpheline-Skin.....	20	94
Ferbam.....	-	15
Ferrovandium Dust.....	-	1
Fluoride (as F).....	-	2.5
Fluoride.....	0.1	0.2
Fluorotrichloromethane.....	1,000	5,600
°Formaldehyde.....	5	6
Formic Acid.....	5	9
Freon 11, see Fluorotrichloromethane.....		

*Parts of vapor or gas per million parts of air plus vapor by volume at 25°C and 760 mm. Hg pressure.

**Approximate milligrams of particulate per cubic meter of air.

Ceiling Value.

°Ceiling Value.

Substances	ppm*	Mg/M ³ **
Freon 13 B1, see Trifluoromonobromomethane.....		
Freon 21, see Dichloromonofluoromethane.....		
Freon 112, see 1, 1, 2, 2-Tetrachloro-1, 2-Difluoroethane.....		
Freon 113, see 1, 1, 1, 2-Trichloro, 1, 2, 2-Trifluoroethane.....		
Freon 114, see Dichlorotetrafluoroethane.....		
Furtural-Skin.....	5	20
Furiaryl Alcohol.....	50	200
Gasoline.....	-	A ³
Glycidol (2, 3-Epoxy-1-Propenol).....	50	150
Glycol Monoethyl Ether, see 2-Ethoxy-Ethanol.....		
Guthion, see Azinphoemethyl.....		
Hafnium.....	-	0.5
Heptaclor-Skin.....	-	0.5
Heptane (n-Heptane).....	500	2,000
Hexachloroethane-Skin.....	1	10
Hexachloronaphthalone-Skin.....	-	0.2
Hexane (n-Hexane).....	500	1,800
2-Hexanone.....	100	410
Hexone (Sethyl Isobutyl Ketone).....	100	410
sec-Hexyl Acetate.....	50	300
Hydrazine-Skin.....	1	1.3
Hydrogen Bromide.....	3	10
°Hydrogen Chloride.....	5	7
Hydrogen Cyanide-Skin.....	10	11
Hydrogen Fluoride.....	3	2
Hydrogen Peroxide, 90%.....	1	1.4
Hydrogen Selenide.....	0.05	0.2
Hydrogen Sulfide.....	10	15
Hydroquinone.....		2
°Iodine.....	0.1	1
Iron Oxide Fume.....	-	10
Isoamyl Acetate.....	100	525
Isoamyl Alcohol.....	100	360
Isobutyl Acetate.....	150	700
Isobutyl Alcohol.....	100	300
Isophorone.....	25	140
Isoprophyl Acetate.....	250	950
Isoprophyl Alcohol.....	400	980
Isoprophylamine.....	5	12
Isoprophylether.....	500	2,100
Isoprophyl Glycidyl Ether (IGE).....	50	240
Ketene.....	0.5	0.9
Lead, Inorganic Compounds, Fumes & Dusts.....	-	0.15
Lead Arsenate.....	-	0.15
Lindane-Skin.....	-	0.5
Lithium Hydride.....	0.25	1
L.P.G. (Liquefied Petroleum Gas).....	1,000	1,800
Magnesium Oxide Fume.....	-	15
Melathion-Skin.....	-	15
Maleic Anhydride.....	0.25	1
°Manganese.....	-	5

*Parts of vapor or gas per million parts of air plus vapor by volume at 25°C and 760 mm. Hg pressure.

**Approximate milligrams of particulate per cubic meter of air.

Ceiling Value.

°Ceiling Value.

Substances	ppm*	Mg/M ³ **
Mercury (Alkyl Compounds)-Skin.....	-	0.01
Mercury (all forms except Alkyl).....	-	0.05
Mesityl Oxide.....	25	100
Methanethiol, see Methyl Mercaptan.....		
Methoxychlor.....	-	15
2-Methoxyethanol, see Methyl Cellosolve.....		
Methyl Acetate.....	200	610
Methyl Acetylene (Propyne).....	1,000	1,650
Methyl Acetylene-Propadiene Mixture (MAPP).....	1,000	1,800
Methyl Acrylate-Skin.....	10	35
Methylal (Dimethoxymethane).....	1,000	3,100
Methyl Alcohol (Methanol).....	200	260
Methyl Amyl Alcohol, see Methyl Isobutyl Carbinol.....		
^c Methyl Bromide-Skin.....	20	80
Methyl Butyl Ketone, see 2-Hexanone.....		
Methyl Cellosolve-Skin.....	25	80
Methyl Cellosolve Acetate-Skin.....	25	120
^c Methyl Chloride.....	100	210
Methyl Chloroform.....	350	1,900
Methylamine.....	10	12
Methylcyclohexane.....	500	2,000
Methylcyclohexanol.....	100	470
o-Methylcyclohexanone-Skin.....	100	460
Methyl Ethyl Ketone (MEK), see 2-Butanone.....		
Methyl Formate.....	100	250
Methyl Iodine-Skin.....	5	28
Methyl Isobutyl Carbinol-Skin.....	25	100
Methyl Isobutyl Ketone, see Hexone.....		
Methyl Isocyanate-Skin.....	0.02	0.05
Methyl (n-Amyl) Ketone (2-Heptanone).....	100	465
^c Methyl Mercaptan.....	10	20
Methyl Methacrylate.....	100	410
Methyl Propyl Ketone, see 2-Pentanone.....		
^c Methyl Styrene.....	100	480
^c Methylene Bisphenyl Isocyanate (MDI)..... (Diphenylmethane Diisocyanate).....	0.02	0.2
Methylene Chloride (Dichloromethane).....	500	1,740
Molybdenum (Soluble Compounds).....	-	5
(Insoluble Compounds).....	-	15
Monomethyl Aniline-Skin.....	2	9
^c Monomethyl Hydrazine-Skin.....	0.2	0.35
Morpholine-Skin.....	20	70
Naphtha (Cool Tar).....	100	400
Naphtha (Petroleum Distillates).....	500	2,000
Naphthalene.....	10	50
B-Naphthylamine.....	-	A ²
Nickel Carbonyl.....	0.001	0.007
Nickel, Metal and Soluble Compunds as NI.....	-	1
Nicotine-Skin.....	-	0.5
Nitric Acid.....	2	5
Nitric Oxide.....	25	30

*Parts of vapor or gas per million parts of air plus vapor by volume at 25°C and 760 mm. Hg pressure.

**Approximate milligrams of particulate per cubic meter of air.

Ceiling Value.

^cCeiling Value.

Substances	ppm*	Mg/M ^{3**}
p-Nitroaniline-Skin.....	1	6
Nitrobenzene-Skin.....	1	5
p-Nitrochloro-Benzene-Skin.....	-	1
Nitroethane.....	100	310
^c Nitrogen Dioxide.....	5	9
Nitrogen Trifluoride.....	10	29
^c Nitroglycerin EGDN-Skin.....	0.2	2
Nitromethane.....	100	250
1-Nitropropane.....	25	90
2-Nitropropane.....	25	90
N-Nitrosodimethyl-Amine (Di-Methyl-Nitrosoamine)-Skin...	-	1
Nitrotoluene-Skin.....	5	30
Nitrotrichloromethane, see Chloropicrin.....		
Octachloronaphthalene-Skin.....	-	0.1
Octane.....	500	2,350
Oil Mist (Mineral).....	-	5
Osmium Tetroxide.....	-	0.002
Oxalic Acid.....	-	1
Oxygen Difluoride.....	0.05	0.1
Ozone.....	0.1	0.2
Parathion-Skin.....	-	0.1
Parquat-Skin.....	-	0.5
Pentaborane.....	0.005	0.01
Pentachloronaphthalene-Skin.....	-	0.5
Pentachlorophenol-Skin.....	-	0.5
Pentane.....	1,000	2,950
2-Pentanone.....	200	700
Perchloroethylene.....	100	670
Perchloromethyl Mercaptan.....	0.1	0.8
Perchloryl Fluoride.....	3	10.5
Phenol-Skin.....	5	10
p-Phenylene Diamine-Skin.....	-	0.1
Phenyl Ether (Vapor).....	1	7
Phenyl Ether-Biphenyl Mixture (Vapor).....	1	7
Phenylethylene, see Styrene.....		
Phenyl Glycidyl Ether (PGE).....	10	62
Phenylhydrazine.....	5	22
Phenothiazine-Skin.....		5
Phosdrin (Mavinphos)-Skin.....		0.1
Phosgene (Carbonyl Chloride).....	0.1	0.1
Phospine.....	0.3	0.4
Phosphoric Acid.....	-	1
Phosphorus (Yellow).....	-	0.1
Phosphorus Pentachloride.....	-	1
Phosphorus Pentasulfide.....	-	1
Phosphorus Trichloride.....	0.5	3
Phthalic Anhydride.....	2	12
Picric Acid-Skin.....	-	0.1
Pival (2-Pivalyl-1, 3-Indandione).....	-	0.1
Platinum (Soluble Salts) as Pt.....	-	0.002
Polytetrafluoroethylene Decomposition Products.....	-	A ²

*Parts of vapor or gas per million parts of air plus vapor by volume at 25°C and 760 mm. Hg pressure.

**Approximate milligrams of particulate per cubic meter of air.

Ceiling Value.

^cCeiling Value.

Substances	ppm*	Mg/M ³ **
Propane.....	1,000	1,800
b-Propiolactone.....		
Propargyl Alcohol-Skin.....	1	A ¹
n-Propyl Acetate.....	200	840
Propyl Alcohol.....	200	500
n-Propyl Nitrate.....	25	110
Propylene Dichloride (1, 2-Dichloropropane).....	75	350
Propylene Imine-Skin.....	2	5
Propylene Oxide.....	100	240
Propyne, see Methyl Acetylene.....		
Pyridine.....	-	5
Quinone.....	5	15
RDX-Skin.....	-	0.4
Rhodium, Metal Fume & Dusts, as RH.....	-	0.1
Ronnel.....	-	10
Rotenone (Commercial).....	-	5
Selenium Cpds (as Se).....	-	0.2
Selenium Hexafluoride.....	0.05	0.4
Silver, Metal & Soluble Cpds.....	-	0.01
Sodium Fluoroacetate (1080)-Skin.....	-	0.05
Sodium Hydroxide.....	-	2
Stibine.....	0.1	0.50
Stoddard Solvent.....	200	1,150
Strychnine.....	-	0.50
Styrene (Phenylethylene).....	100	420
Sulfur Dioxide.....	5	13
Sulfur Hexafluoride.....	1,000	6,000
Sulfuric Acid.....	-	1
Sulfuric Monochloride.....	-	6
Sulfur Pentafluoride.....	0.025	0.25
Sulfuryl Fluoride.....	5	20
Systox, see Demeton.....		
2, 4, 5T.....	-	10
Tantalum.....	-	5
TEDP-Skin.....	-	0.2
Teffon (R) Decomposition Products.....	-	A ²
Tellurium.....	-	0.1
Tellurium Hexafluoride.....	0.02	0.2
TEPP-Skin.....	-	0.05
^c Terphenyls.....	-	0.2
1, 1, 1, 2-Tetrachloro-2, 2-Difluoroethane.....	500	4,170
1, 1, 2, 2-Tetrachloro-1, 2-Difluoroethane.....	500	4,170
1, 1, 2, 2-Tetrachloroethane-Skin.....	5	35
Tetrachloroethylene, see Perchloroethylene.....		
Tetrachloromethane, see Carbon Tetrachloride.....		
Tetrachloronaphthalene-Skin.....	-	2
Tetraethyl Lead (as Ph)-Skin.....	-	0.075
Tetrahydrofuran.....	200	590
Tetramethyl Lead (TML) (as Lead)-Skin.....	-	0.07
Tetramethyl Succinonitrile-Skin.....	0.5	3

*Parts of vapor or gas per million parts of air plus vapor by volume at 25°C and 760 mm. Hg pressure.

**Approximate milligrams of particulate per cubic meter of air.

Ceiling Value.

^cCeiling Value.

Substances	ppm*	Mg/M ³ **
Tetranitromethane.....	1	8
Tetryl (2, 4, 6-Trinitrophenylmethylnitramine)-Skin.....	-	1.5
Thallium (Soluble Compounds)-Skin as T.....	-	0.1
Thiram.....	-	5
Tin (Inorganic Compounds, except Oxide).....	-	2
Tin (Organic Compounds).....	-	0.1
Titanium Dioxide.....	-	15
Toluene (Toluol).....	100	375
^c Toluene-2, 4-Diisocyanate.....	0.02	0.14
o-Toluidine-Skin.....	5	22
Toxaphene, see Chlorinated Camphene.....		
Tributyl Phosphate.....	-	5
1, 1, 2-Trichloroethane-Skin.....	10	45
1, 1, 1-Trichloroethane, see Methyl Chloroform.....		
Trichloroethylene.....	100	535
Trichloromethane, see Chloroform.....		
Trichloronaphthalene-Skin.....	-	5
1, 2, 3-Trichloropropane.....	50	300
1, 1, 2-Trichloro 1, 2, 2-Trifluoroethane.....	1,000	7,600
Triethylamine.....	25	100
Trifluoromonobromomethane.....	1,000	6,100
2, 4, 6-Trinitrophenol, see Picric Acid.....		
2, 4, 6-Trinitrophenylmethylnitramine, see Tetryl.....		
Trinitrotoluene-Skin.....	-	1.5
Triortho-Cresyl Phosphate.....	-	0.1
Tungsten & Compounds, as W.....	-	3
Soluble.....		
Insoluble.....	-	1
Triphenyl Phosphate.....	-	3
Turpentine.....	100	560
Uranium (Soluble Compounds).....	-	0.05
(Insoluble Compounds).....	-	0.25
^c Vanadium (V ₂ O ₅ Dust).....	-	0.5
Vinyl Benzene, see Styrene.....		
^c Vinyl Chloride.....	50	-
Vinyl Cyanide.....		
Vinyl Cyanide, see Acrylonitrile.....		
Vinyl Toluene.....	100	480
Warfarin.....	-	0.1
Xylene (Xylol).....	100	435
Xylidine-Skin.....	5	25
Yttrium.....	-	1
Zinc Chloride Fume.....	-	1
Zinc Oxide Fume.....	-	5
Zirconium Compounds (as Zr).....	-	5

*Parts of vapor or gas per million parts of air plus vapor by volume at 25°C and 760 mm. Hg pressure.

**Approximate milligrams of particulate per cubic meter of air.

Ceiling Value.

^cCeiling Value.

**TABLE 8a
MINERAL DUSTS**

Substance	Mppcf*	Mg/M³
Silica:		
Crystalline:		
Quartz (respirable).....	$\frac{250^a}{\%SiO_2+5}$	$\frac{10 \text{ mg/m}^3}{\%SiO_2+2}$
Quartz (total dust).....		$\frac{30 \text{ mg/m}^3}{\%SiO_2+3}$
Cristobalite.....	Use 1/2 the value calculated from the count or mass formulate for quartz	
Tridymite.....	Use 1/2 the value calculated from the formulate for quartz	
Amorphous, including natural distomaceous earth.....	20	80 mg/M %SiO ₂
Silicates (less than 1% crystalline silica):		
Mica.....	20	
Soapstone.....	20	
Talc (non-asbestos form).....	20 ^(b)	
Portland Cement.....	50	
Graphite (natural).....	15	
Inert or Nuisance particulates		
Respirable fraction.....	15	
Total dust.....	50	
Note:	Conversion factors-	
	mmpcf x 35.5 - million particles per cubic meter	
	- particles per c.c.	

*Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.

^{a)}The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.

^{b)}Containing 1% quartz; if 1% quartz, use quartz limit.

**TABLE 8b
PERMISSIBLE NOISE EXPOSURE**

Duration per day, hours	Sound Levels, dBA, slow response
8	90
6	92
4	95
3	97
2	100
1-1/2	102
1	105
1/2	110
1/4	115

**TABLE 8c
ILLUMINATION LEVELS**

Area of Operation	Minimum Lighting Levels and Task lux
Cutting cloth Sewing cloth Finish inspection Fine assembly Color grading Fine Machining	2000 and above (200 foot candles)
Inspection and assembly Clay enameling and glazing Electric motor insulating Coil winding and testing Chipping Grinding Fine core making Machine shop benchwork Transcribing handwriting Indexing references Accounting Pattern making Drafting	1,000 (100 foot candles)
Welding Automotive frame assembly Chemical laboratory Foundry molding Metal pouring Sorting Core making Rubber extrusion and tire making Punch press Shearing Stamping Spinning Woodworking Sizing Planing Rough Sanding Medium quality machine and benchwork First aid station	500 (50 foot candles)
Packaging Barrel Washing Turbine Clay molding and pressing Chemical furnace Tank Dryer Evaporator Extractor Cleaning and annealing furnace Plating Drop-forge shop Lunch room Locker room Rest room Shower room	300 (30 foot candles)

Area of Operation	Minimum Lighting Levels and Task lux
General construction plants and shops e.g. batching plants, screening plants, mechanical and electrical equipment rooms, carpenter shops, rigging lofts and active storerooms, barracks or living quarters, tunnel and shaft heading during drilling, mucking and scalding.	100 (10 foot candles)
Tunnels, shaft and general underground workareas, concrete placement, excavation and waste areas, access ways, active storage areas, loading platforms, refueling, and field maintenance areas, indoors, warehouses, corridors hallways and exitways	50 (5 foot candles)

**TABLE 8d
HUMAN CARCINOGENS**

Human Carcinogens-recognized to have carcinogenic potentials

°Arsenic Trioxide.....	0.05 micro m/m ³
°Asbestos, all forms.....	2 fiber/cc, 5 micro m in length
°Chromite ore (processing chromite) as Cr.....	0.05 mg/m ³
°Nickel sulfied (fume and dusts) as Ni.....	1.0 mg/m ³
°Particulate Polycyclic Aromatic Hydrocarbons, as benzene solubles.....	0.2 mg/m ³

**TABLE 25-a
SIZE OF LETTERS FOR VARIOUS DIAMETER OF PIPES**

Outside Diameter Pipe Covering	*Width of Color Band	*Size of Legend Letters
19 mm to 32 mm (3/4 in to 1 1/4 in)	"A" 203 mm (8 in)	"B" 13 mm (1/2 in)
38 mm to 51 mm (1 1/2 in to 2 in)	203 mm (8 in)	19 mm (3/4 in)
63 mm to 153 mm (2 1/2 in to 6 in)	304 mm (12 in)	32 mm (1 1/4 in)
203 mm to 254 mm (8 in to 10 in)	610 mm (24 in)	64 mm (2 1/2 in)
over 254 mm (over 10 in)	813 mm (32 in)	89 mm (3 1/2 in)

*Refer to Figure 20

**TABLE 25-b
IDENTIFICATION OF PIPING BY COLOR OR COLOR BANDS**

WATER	GREEN
AIR	Light BLUE
GASES (Gaseous or Liquid Form, vapors and pneumatically conveyed fumes and materials)	YELLOW ochre
STEAM	Silver GRAY
OILS (Mineral, vegetable or animal: Flammable or combustible)	BROWN
ACIDS AND ALKALIS	VIOLET
Other Fluids (Including drainage pipes unless the drain is to a particular service)	BLACK
FIRE-FIGHTING EQUIPMENT INCLUDING DETECTION and Suppression system; Fire Protection Materials	Safety RED
HAZARDOUS SERVICES (Generally with other identification of contents Dangerous Materials)	Safety YELLOW
ELECTRICITY	Light ORANGE
COMMUNICATIONS	WHITE

**TABLE 25-c
LETTERED LEGEND FOR POSITIVE IDENTIFICATION**

Example:

Lettered Legend for Positive Identification	Supplementary Legend
Water	Fire Protection
Ammonia	Anhydrous Dangerous Liquid and Gas
Acetone	Extremely Flammable Liquid (Dangerous)
Hydrogen	Extremely Flammable Gas (Dangerous)
Air	High Pressure Gas
Carbon Dioxide	Fire Protection

**TABLE 25-d
COLOR OF LEGEND LETTERS**

Example:

Predominant Color for Bands (A, Fig. 20)	Color of Legend Letter (B, Fig. 20)
RED	WHITE
YELLOW	BLACK
GREEN	BLACK
BLUE	WHITE

**FIGURE 20
Legend Placement-Width of Color Bands**

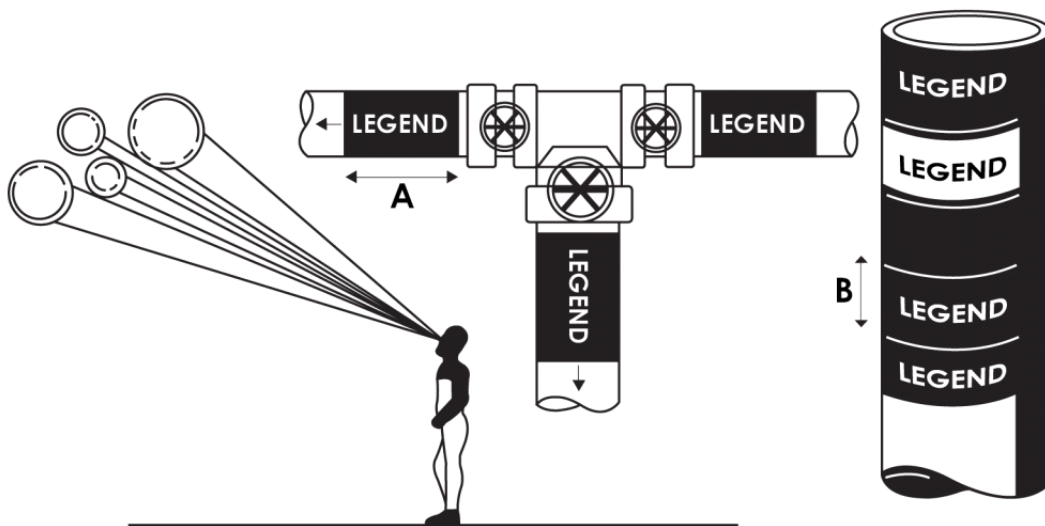


TABLE 47
TABLE OF MEDICINES, MEDICAL SUPPLIES AND FACILITIES

A. FOR HAZARDOUS WORKPLACES

I. MEDICINES**

N U M B E R S O F W O R K E R S

	1-50	51-99	100-199	200-600	601-2,000	2,001 & above
1. Topical Antiseptic, cc.	60	60	120	120	240	240
2. Antiseptic eyewash, cc.	120	120	120	240	240	240
3. Isopropyl Alcohol, cc.	240	240	240	500	500	500
4. Aromatic Spirit of Ammonia, cc.	30	30	30	30	60	60
5. Toothache drops, cc.	15	15	15	30	30	30
6. Hydrogen peroxide solution, cc.	120	120	240	240	360	480
7. Burn ointment, tube	1	1	1	1	1	1
8. Analgesic/Antipyretic, tablets	20	30	40	40	50	50
9. Anti-histaminic tablets	-	-	20	30	40	50
10. Antacid tablets	10	10	20	30	40	50
11. Anti-diarrhea tablets	10	10	20	30	40	50
12. Anti-spasmodic tablets	-	10	20	30	40	50
13. Antihypertensive tab.	-	10	20	30	40	50
14. Coronary vasolidator tablets	-	10	20	30	40	50
15. Anti-Asthma tablets	-	10	10	10	20	20
16. Anti-hemorrhagic tablets	-	10	20	20	30	30
17. Glucose solution 5%, 500 cc., bottle	-	1	2	2	3	4
18. Anesthetic preparation, cc.	-	-	50	50	50	50

II. MEDICAL SUPPLIES AND EQUIPMENT***

N U M B E R S O F W O R K E R S

	1-50	51-99	100-199	200-600	601-2,000	2,001 & above
1. First Aid pamphlet	1	1	1	1	1	1
2. First Aid box	1	1	1	1	1	1
3. Thermometer	1	1	1	2	2	2
4. Stethoscope	-	1	1	1	1	1
5. Sphygmomanometer	-	1	1	1	1	1
6. Sterile gauze pads	5	5	10	10	20	20
7. Gauze bandage, roll	1	1	1	2/*	2/*	2/*
8. Adhesive tape, roll	1	1	1	1	1	1
9. Absorbent cotton	*	*	*	*	*	*
10. Bandage scissors	1	1	1	1	1	1
11. Triangular bandage	1	1	1	2	2	2
12. Safety pins	*	*	*	*	*	*

	1-50	51-99	100-199	200-600	601-2,000	2,001 & above
13. Tongue depressors wooden	100	100	100	100	100	100
14. Hot Water bag	1	1	1	1	1	1
15. Ice bag	1	1	1	1	1	1
16. Disposable hypodermic syringes with needles 2.5 cc.	-	-	10	10	10	20
17. Rubber tourniquet	1	1	1	1	1	1
18. Venoclysis set (IV tubing butterfly)	-	-	1	1	1	1
19. Minor surgical instruments	-	-	-	-	-	-
20. Forceps	*	*	*	*	*	*
21. Sterilizers	-	-	-	-	-	-
22. Waste pail	1	1	1	1	1	1
23. Soap cake	*	*	*	*	*	*
24. Examining table	-	-	-	-	1	1
25. Linens	-	-	-	-	*	*
26. Bed	-	-	-	-	1	1
27. Stretcher	-	-	-	-	1	1
28. Cabinet for medicine and supplies	-	-	-	1	1	1

III. MEDICAL FACILITIES

Number of Workers	Treatment Room	Emergency Clinic	Emergency Hospital/ Infirmary	Dental Clinic
1 -50				
51-99	x			
100-199	x			
200-600		x		
601-2,000		xx		x
2,001-above			x	x

* Adequate quantity depending upon the needs of the workers as determined by the health personnel of the establishment.

** Any medicine, supply or equipment prescribed in the table may be substituted with one of comparable effectiveness and shall be replaced with the same quantity immediately after use of consumption.

B. ADDITIONAL REQUIREMENTS FOR FACTORIES/PLANTS USING OR PRODUCING PESTICIDES UNDER TOXICITY CATEGORIES 1 AND II OF THE WHO TOXICITY CLASSIFICATION STANDARDS

I. MEDICINES**	N U M B E R S O F W O R K E R S					
	1-50	51-99	100-199	200-600	601-2,000	2,001 & above
(1) anti-convulsant ampule	2	2	2	2	3	4
(2) antidote (as atropine sulfate, activated charcoal Fuller's earth, or the specific antidote for the chemicals/toxic substances used in the factory)	*	*	*	*	*	*

II. MEDICAL SUPPLIES AND EQUIPMENT	N U M B E R S O F W O R K E R S					
	1-50	51-99	100-199	200-600	601-2,000	2,001 & above
(1) oxygen tank with regular mask and humidifier	1	1	1	2	2	2
(2) ambu bag	1	1	1	2	2	2
(3) endotracheal tube or orolaryngeal airway	1	1	1	1	2	2
(4) laryngoscope	1	1	1	1	2	2
(5) suction apparatus	1	1	1	1	2	2
(6) NGT or orogastric hose	1	1	1	1	2	2
(7) aseptosyringe	1	1	1	1	2	2
(8) medical kit	1	1	1	1	2	2

III. MEDICAL FACILITIES

Only for establishments employing 51 workers and more:

- (1) Medical clinic within 100 meters in the factory/plant.
- (2) Bathroom with shower and eyewash facilities within or beside the clinic.
- (3) Examining table with capacity to allow Trendelenberg position.

C. FOR NON-HAZARDOUS WORKPLACES

I. MEDICINES**	N U M B E R S O F W O R K E R S					
	1-50	51-99	100-199	200-600	601-2,000	2,001 & above
1. Topical Antiseptic, cc.	60	60	60	120	240	240
2. Antiseptic eyewash, cc.	-	-	-	-	-	-
3. 70% Isopropyl Alcohol, cc.	240	240	240	240	500	500
4. Aromatic Spirit of Ammonia, cc.	30	30	30	30	30	30
5. Toothache drops, cc.	15	15	30	30	30	30
6. Hydrogen peroxide solution, cc.	120	120	120	240	240	240

	1-50	51-99	100-199	200-600	601-2,000	2,001 & above
7. Burn ointment, tube	-	-	1	1	1	1
8. Analgesic/Antipyretic, tablets	10	10	10	20	30	40
9. Anti-histaminic tablets	-	-	10	20	30	40
10. Antacid tablets	10	10	10	20	30	40
11. Anti-diarrhea tablets	10	10	10	20	30	40
12. Anti-spasmodic tablets	-	-	10	20	30	40
13. Antihypertensive tab.	-	-	10	20	30	40
14. Coronary vasolidator tablets	-	-	10	20	30	40
15. Anti-Asthma tablets	-	-	10	10	20	20
16. Anti-hemorrhagic tablets	-	-	10	10	20	20
17. Glucose solution						
5%, 500 cc., bottle	-	-	-	-	-	-
18. Anesthetic preparation, cc.	-	-	-	-	-	-

II. MEDICAL SUPPLIES AND EQUIPMENT**

N U M B E R S O F W O R K E R S

	1-50	51-99	100-199	200-600	601-2,000	2,001 & above
1. First Aid pamphlet	1	1	1	1	1	1
2. First Aid box	1	1	1	1	1	1
3. Thermometer	1	1	1	1	2	2
4. Stethoscope	-	-	1	1	1	1
5. Sphygmomanometer	-	-	1	1	1	1
6. Sterile gauze pads	5	5	5	10	20	20
7. Gauze bandage, roll	1	1	1	1	2	2
8. Adhesive tape, roll	1	1	1	1	1	1
9. Absor s	*	*	*	*	*	*
10. Triangular bandage	1	1	1	1	1	1
11. Safety pins	-	1	1	1	2	2
12. Tongue depressors wooden	-	*	*	*	*	*
13. Hot Water bag	-	-	100	100	100	100
14. Ice bag	1	1	1	1	1	1
15. Disposable hypodermic syringes	1	1	1	1	1	1
16. with needles 2.5 cc.						
Rubber tourniquet	-	-	10	10	10	20
17. Venoclysis set (IV tubing	1	1	1	1	1	1
18. butterfly)						
Minor surgical instruments	-	1	1	2	2	2
19. Forceps	-	-	*	*	*	*
20. Sterilizers	-	*	*	*	*	*
21. Waste pail	-	-	-	-	1	1
22.	1	1	1	1	1	1

	1-50	51-99	100-199	200-600	601-2,000	2,001 & above
23. Soap cake	*	*	*	*	*	*
24. Examining table	-	-	-	1	1	1
25. Linens	-	-	-	*	*	*
26. Bed	-	-	-	1	1	1
27. Stretcher	-	-	-	1	1	1
28. Cabinet for medicine and supplies	-	-	1	1	1	1

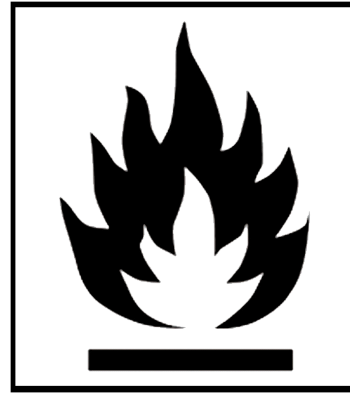
III. MEDICAL FACILITIES

Number of Workers	Treatment Room	Emergency Clinic	Emergency Hospital/ Infirmary	Dental Clinic
1 -50				
51-99	x			
100-199	x			
200-600	x			
601-2,000		x		
2,001-above		x		x

FIG. 10a SYMBOLS OF CATEGORY OF HAZARDS



Toxic Substance



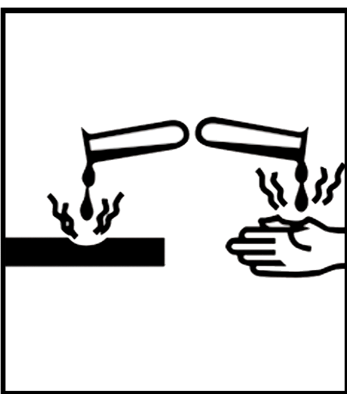
Flammable Substance



Oxidizing Substance



Explosive Substance





Corrosive Substance



Radioactive Substance

FIG. 10b - SAMPLE LABELS

CARBON DISULPHIDE		
		HIGHLY FLAMMABLE VERY POISONOUS VAPOUR
Highly volatile and liable to form an explosive mixture with air even if the container is apparently empty		
<p>Keep container tightly closed and in a cool well ventilated place. Keep away from open flame, sparks and any other source of heat. Use only with adequate ventilation and avoid breathing vapour. Avoid contact with skin, eyes and clothing. In case of fire, extinguish with sand and earth.</p>		

Republic of the Philippines
Department of Labor and Employment
REGIONAL OFFICE NO.

APPLICATION FOR: () REGISTRATION
() RE-REGISTRATION

.....
Date

1. Name of Establishment:.....
 2. Address:.....
Street City/Municipality Province
 3. Name of Manager/Owner:.....
 4. Address of Manager/Owner:.....
 5. Nature of Business & Product Manufactured, Service Rendered or Merchandise Sold: (Example Manufacturing-Textile; Construction-Building; Agriculture-Production of Livestock, etc.: Forestry-Logging; Services-Generation and Distribution of Electricity; Commerce-Lumber and Construction Materials; Wholesale or Retail)
.....
.....
 6. Number of Employees:.....GRAND TOTAL.....

	Filipinos	Resident Alien	Non-Resident Alien	Below 15	Minors 15 Below 18
Male					
Female					
Total					
 7. Name and Address of Labor Union if any:.....
 8. Technical Information:.....
 - a. Machinery, Equipment and Other Devices in Use: (Example: Machinery, Drill Press, Circular Saw, etc.: Boiler Pressure Vessel; Internal Combustion Engine Diesel, Gasoline.....
 - b. Materials Handling Equipment and Devices: Example: Handtrucks, Power Trucks, Conveyors, etc.)
 - c. Chemicals or substances used or handled.....
 9. If branch unit, name of parent establishment.....
Location.....
 10. Current Capitalization: P..... Total Assets.....
- FOR RE-REGISTRATION, ACCOMPLISH ALSO
11. Past Application Number..... Date of Application.....
 12. If Changing Name of Establishment, State Former Name:.....
 13. If Changing Location, Give Past Address:.....

I hereby certify that the above information is true and correct.

RECEIVED AND APPROVED

Date.....

Enforcing Officer

Owner/Manager

.....TIN

Regional Director

REPORT ON HEALTH AND SAFETY ORGANIZATIONS

Date Filed _____
Regional Labor Office No. _____
File Number _____

Name of Establishment: _____

Address: _____

Nature of Business: _____

Persons Employed, Including

Management: 1st Shift: Male _____ Female _____

2nd Shift: Male _____ Female _____

3rd Shift: Male _____ Female _____

TOTAL: Male _____ Female _____

A. Policy and Program on Safety and Health:

B. Composition of Safety and Health Committee: Type: _____

Central Safety Committee

Name	Position in Establishment
------	---------------------------

Chairman:

Members:

Secretary:

C. Technical Information:

a. Brief description of process operation and number and kind of equipment:

Submitted by:

General Manager

Republic of the Philippines
Department of Labor and Employment
BUREAU OF WORKING CONDITIONS
Manila

EMPLOYER'S WORK ACCIDENT/ILLNESS REPORT

(This report shall be submitted by the employer for every accident or illness to the Regional Office having jurisdiction on or before the 20th day of the month following the date of occurrence.)

EMPLOYER	1.	Establishment: _____
	2.	Address: _____ Nature of Business: _____
	3.	Name of Employer: _____ Nationality: _____
	4.	Name of Employees: _____ Male: _____ Female: _____ Total: _____
<hr/>		
INJURED OR ILL PERSON	5.	Name: _____ Age: _____ Sex _____ Civil Status: _____
	6.	Address: _____
	7.	Average Weekly Wage: P _____ No. of Dependents: _____
	8.	Length of service prior to accident or illness: _____
<hr/>		
OCCUPATIONAL HISTORY	9.	Occupation: _____ Experience at Occupation: _____
	10.	Work Shift: ___ 1 st ___ 2 nd ___ 3 rd ___ Hours of work/day: ___ Day/Week: ___
<hr/>		
ACCIDENT OR ILLNESS	11.	Date of accident/illness: _____ Time: _____
	12.	The accident involved: _____ Personal Injury: _____ Property Damage: _____
	13.	Description of accident/illness (Give full details on how accident/illness occurred): _____ _____
	14.	Was injured doing regular part of job at the time of accident or illness: ___ If not, why? _____
<hr/>		
NATURE & EXTENT OF INJURY OR ILLNESS	15.	Extent of Disability: _____ Fatal _____ Permanent Total _____ Permanent Partial _____ Temporary Total _____ Medical Treatment _____
	16.	Nature of injury or illness: _____ Parts of Body Affected: _____
	17.	Date Disability Begun: _____ Date Returned to Work _____
	18.	Days Lost: _____ or Days Charged: _____
<hr/>		
CAUSE OF ACCIDENT OR ILLNESS	19.	The Agency Involved: _____
	20.	The Agency Part Involved: _____
	21.	Accident Type: _____
	22.	Unsafe Mechanical or Physical Condition: _____
	23.	The Unsafe Act: _____
	24.	Contributing Factor: _____
<hr/>		
PREVENTIVE MEASURES	25.	Preventive Measures (taken or recommended): _____
	26.	Mechanical guards, personal protective equipment and other safeguards provided: _____
	27.	Were all safeguards in use? _____ If not, why? _____ _____

A C C I D E N T C O S T	MANPOWER	28. Compensation: _____ P _____
		29. Medical and Hospitalization: _____
		30. Burial: _____
		31. Time Lost on Day of Injury: _____ Hrs. _____ Mins. _____
		32. Time Lost on Subsequent Days: _____ Hrs. _____ Mins. _____ (treatment or other reasons)
		33. Time on light work or reduced output: _____ Day: _____ Percent Output: _____
	MACHINERY AND TOOLS	34. Damage to Machinery and Tools (Describe): _____
		35. Cost of repair or replacement: _____ P _____
		36. Lost Production Time: _____ Cost: _____
	MATERIALS	37. Damage to Materials (Describe): _____
		38. Cost of repair or replacement: _____ P _____
		39. Lost Production Time: _____ Cost: _____
	EQUIPMENT	40. Damage to Equipment (Describe): _____
41. Cost of repair or replacement: _____ P _____		
42. Lost Production Time: _____ Cost: _____		

I HEREBY CERTIFY on my honor to the accuracy of the foregoing information.

_____ Date

_____ Investigating Officer & Position

_____ Employer

GOVERNMENT SAFETY ENGINEER'S ACCIDENT INVESTIGATION REPORT

(This report shall be submitted to the Bureau of Working Conditions not later than the 30th day of the month following the date of occurrence.)

ORIGIN (NOTICE)	1.	<input type="checkbox"/> Establishment	2.	<input type="checkbox"/> Police	<input type="checkbox"/>	<input type="checkbox"/> Other (Name)
		<input type="checkbox"/> Telephone		<input type="checkbox"/> Telegram		<input type="checkbox"/> Messenger: Other
		Other _____				
<hr/>						
EMPLOYER	3.	Establishment _____ Nature of Business _____				
	4.	Address _____				
	5.	Manager _____ Nationality _____				
	6.	Employees & Workers: M _____ F _____ Total _____				
<hr/>						
INJURED	7.	Name _____ Age _____ Sex _____ Civil Status _____				
	8.	Address _____ No. of Dependents _____				
	9.	Occupation _____ Average of Weekly Wage P _____				
	10.	Length of service prior to accident _____ Accident Record _____				
<hr/>						
THE ACCIDENT	11.	Date of Accident _____ Time _____				
	12.	This accident involved _____ Personal Injury _____ Property Damage _____				
	13.	Description of accident. (Give full details on how accident occurred): _____ _____				
	14.	Activities performed before accident _____ Was this part of regular job? _____ If not, why? _____				
	15.	No. of similar accidents in the past 2 years _____				
	16.	No. of injuries in the past 12 months _____ Total _____ Non-Disabling _____ Disabling _____ Fatal _____				
<hr/>						
INJURY	17.	Extent of Injury _____ Fatal _____ Permanent Total _____				
	18.	Nature of Injury _____				
	19.	Part of body affected _____				
<hr/>						
CAUSE	20.	The Agency Involved _____				
	21.	Part of Agency Involved _____				
	22.	Unsafe mechanical or physical condition _____				
	23.	Accident Type _____				
	24.	The Unsafe Act _____				
	25.	Contributing Factor _____				
<hr/>						
PROPERTY DAMAGE	26.	Describe kind and extent of damage to equipment, materials, machinery and tools: _____ _____				
<hr/>						
PREVENTIVE MEASURES	27.	Preventive measures taken: _____ _____				
<hr/>						
WITNESS	28.	Supervisor/Foreman (Name) _____				
	29.	Worker (Name) _____				
	30.	Others (Name) _____				
<hr/>						
REMARKS RECOMMENDATIONS	31.	_____ _____ _____				

Investigation conducted in the presence of:

(Name and Position)

Industrial Safety Engineer
Date _____

_____ Date

ANNUAL WORK ACCIDENT/ILLNESS EXPOSURE DATA REPORT

Name of Establishment: _____

Nature of Business: _____

Address: _____

Exposure Date _____ January to December 19 _____

Number of Employees _____

Total Hours Worked by All _____

Employees During the Year _____

Injury Summary _____

Total-All Disabling Injuries/Illness _____

Total-Non-Disabling _____

Frequency Rate _____

Severity Rate _____

General Manager

1. This report shall be accomplished whether or not there were accident/illness occurrences during the period, covered and submitted to the Regional Labor Office or local government having jurisdiction not later than the 30th day of the month following the end of each calendar year.
2. Frequency Rate is the total number of disabling injuries per million employee hours of exposure.

$$\text{Frequency Rate} = \frac{\text{Number of disabling injuries} \times 1,000,000}{\text{Employee hours of Exposure}}$$

3. Severity Rate is the total number of days lost or charged per million employee hours of exposure.

$$\text{Severity Rate} = \frac{\text{Number of days lost or charged} \times 1,000,000}{\text{Employee hours of Exposure}}$$

4. Exposure is the total number of hours worked by all employees in each establishment including employees or operating production, maintenance, transportation, clerical, administrative, sales and other departments.
5. Disabling Injuries-work injuries which result in death, permanent total disability, permanent partial disability or temporary total disability.
6. Non-Disabling Injuries (Medical Treatment)-Injuries which do not result into disabling injuries but require first-aid or medical attention of any kind.

ANNUAL MEDICAL REPORT FORM

For Period January 1, 20.....to December 31, 20.....

- 1. Name of Establishment:.....
- 2. Address:.....
- 3. Name of Manager/Owner:.....
- 4. Nature of Business and Product/Service (Ex. Manufacturing-Textile)
.....

5. Total Number of Employees:.....Number of Shifts:.....

6. Number Distribution of Employees as to nature/workplace, sex and workshift:

	Office	Production/Shop		
	1 st Shift	2 nd Shift	3 rd Shift	
Male	:			
Female	:			
Total	:			

- 7. Preventive Occupational Health Services: (Check or Cross)
 - a. Occupational health services is organized/provided by:
 - () the establishment/undertaking
 - () government authority/institution
 - () other bodies/groups/institution (specify).....

- b. Occupational health services as described under number 7a above, is organized/provided as a service:
 - () solely for the workers of the establishment/undertaking
 - () common to a number of establishments/undertakings.....

- c. The employer engages the services of:
 - () Occupational health practitioner
Name :
 - Address :
 - () Occupational health physician
Name :
 - Address :
 - () Occupational health dentist
Name :
 - Address :
 - () Occupational health nurse
Name :
 - Address :

- d. The occupational health physician/practitioner/nurse/personnel conducts an inspection of the workplace:
 - () once every month
 - () once every two (2) months
 - () once every three (3) months
 - () once every six (6) months
 - () other details.....

- 8. Emergency Occupational Health Services:
 - a. The employer provides a treatment room/medical clinic in the workplace with medicines and facilities:
 - () yes
 - () no
 - () others, please specify.....

b. Schedule of attendance in the workplace:

	Workshift
Occupational health physician	:..... hrs./day.....
Occupational health dentist	:..... hrs./day.....
Occupational health practitioner	:..... hrs./day.....
Occupational health nurse	:..... hrs./day.....

c. Schedule of attendance of full time first aider

- () 1st workshift
- () 2nd workshift
- () 3rd workshift

d. The following occupational health personnel of this establishment have undergone training in occupational health and safety/first aid:

- () Occupational health physician
- () Occupational health dentist
- () Occupational health nurse
- () first-aider
- () others, please specify.....

9. Occupational Health Services:

a. The occupational health personnel of this establishment conducts regular appraisal of the sanitation system in the workplace:

- () yes
- () no

b. Number of workers who underwent the following medical examinations:

	Physical Exams	X-rays	Urinalysis	
1. Pre-placement	
2. Periodic	
3. Return-to-work	
4. Transfer	
5. Spacial	
6. Separation	

	Stool Exam	Blood Test	ECG	Others
1. Pre-placement
2. Periodic
3. Return-to-work
4. Transfer
5. Spacial
6. Separation

10. Report of Diseases

a. Number of consultations/treatments for the following diseases

	Male	Female	Total Number of Cases
Skin:			
() allergy
() dermatoses
() infection as folliculitis abscess/paro nychia
() Others
Head:			
() tension headache
() Others
Eyes:			
() Error of refraction
() Bacterial/Viral conjunctivities
() Cataract
() Others

	Male	Female	Total Number of Cases
Mouth & ENT:			
() Gingivitis
() Herpes Labiales/ nasalis
() Otitis Media/Externa
() Deafness
() Meniere's Syndrome/ Vertigo
() Rhinitis/Colds
() Nasal Polyps
() Sinusitis
() Tonsillopharyngitis
() Laryngitis
() Others
Respiratory:			
() Bronchitis
() Bronchial Asthma
() Pneumonia
() Tuberculosis
() Pneumoconiosis
() Others
Heart and Blood Vessel:			
() Hypertension
() Hypotension
() Angina Pectoris
() Myocardial Infarction
() Vascular disturbances in extremities due to continuous vibration
() Others
Gastrointestinal:			
() Gastroenteritis/Diarrhea
() Amoebiasis
() Gastritis/Hyperacidity
() Appendicitis
() Infectious Hepatitis
() Liver Cirrhosis
() Hepatic Abscess
() Cancer (Hepatic/Gastric)
() Ulcer
() Others
Genito Urinary:			
() Urinary Tract Infection
() Stones
() Cancer
() Others
Reproductive:			
() Dysmenorrhea
() Infection (Cervicitis) (Vaginitis)
() Abortion (Spontaneous) (Threatened)
() Hyperemesis Gravidarum
() Uterine Tumors
() Cervical Polyp/Cancer
() Ovarian Cyst/Tumors
() Sexually-Transmitted Diseases
() Hernia (Inguinal) (Femoral)
() Others

	Male	Female	Total Number of Cases
Neuromuscular/Skeletal/Joints:			
() Peripheral Neuritis
() Torticollis
() Arthritis
() Others
Lymphatics and Circulatory:			
() Anemia
() Leukemia
() Cerebrovascular Accidents
() Lymphadenitis
() Lymphoma
Infectious Diseases:			
() Influenza
() Typhoid/Paratyphoid Fever
() Cholera
() Measles
() Mumps
() Tetanus
() Malaria
() Schistosomiasis
() Herper Zoster
() Chicken Pox
() German Measles
() Rabies
() Others
Diseases Due to Physical Environment:			
a. Diseases Due to Noise and Vibration:			
() Deafness (noise induced).....
() Musculo-skeletal Disturbances
() Fatigue
b. Diseases Due to Temperature and Humidity Abnormalities:			
Hot Temperature			
() Heat strokes
() Heat cramps
() Dehydration
() Heat exhaustion
() Others
() Stones
() Cancer
() Others
Cold Temperature			
() Chilbalin
() Frost Bite
() Immersion foot
() General hypothermia
() Others
c. Diseases Due to Pressure Abnormalities			
() Decompression Sickness:			
() Air embolism
() Bends disease
() Barotrauma
() Hypoxia
() Altitude sickness

	Male	Female	Total Number of Cases
d. Diseases Due to Radiation:			
() Cataracts
() Keratitis
() Burns
() Radiation-related cancers
TOTAL NUMBER.....

11. Report of Occupational Accidents/Injuries

Nature	Male	Female	Total Number of Cases
Contusion, bruises, hematoma
Abrasions
Cuts, lacerations, punctures
Concussion
Avulsion
Amputation, loss of body parts
Crushing injuries
Spinal injuries
Cranial injuries
Sprains
Dislocation/Fractures
Burn

12. Immunization Program (Indicate number immunized.)

	Male	Female	Total
Tetanus Toxoid Injection
Tetanus Antitoxin Injection
Tetanus Globulin Injection
Hepatitis B Vaccine
Rabies Vaccine
Others (Please Specify)

13. Keeping of Medical Records of Workers (Please check)

() done () not done

14. Health Education and Counselling by Health and Safety Personnel: (Please check one or more)

- () done individually as each worker comes to the clinic for consultation.
 () done in organized group discussions/seminars.
 () done with the use of visual displays and/or promotional materials, leaflets, etc.

15. Other Health Programs (Please check)

Kinds of Program	Seminar	Use of Visual Aid/Materials	Counselling
Nutrition Program			
Maternal and Child Care Program			
Family Planning Program			
Mental Health Activities			
Personal Health Maintenance			

Physical Fitness Program: (Please check)

Sports Activities () Yes () No
 Others (Please specify) () Yes () No

16. Hazards in the workplace: (Please check and give details of the substance)

	Substance and/or sources	Number of workers exposed
a. Chemical Hazards:		
<input type="checkbox"/>	dust (Ex. Silica dust)	.....
<input type="checkbox"/>	liquids (Ex. Mercury)	.....
<input type="checkbox"/>	mist/fumes/vapors (Ex. mist from paint spraying)	.....
<input type="checkbox"/>	gas (Ex. CO, H ₂ S)	.....
<input type="checkbox"/>	others (Please specify) (Ex. solvents)	.....
b. Physical Hazards:		
<input type="checkbox"/>	noise	.....
<input type="checkbox"/>	temperature/humidity	.....
<input type="checkbox"/>	pressure	.....
<input type="checkbox"/>	illumination	.....
<input type="checkbox"/>	radiation/ultraviolet/ microwave	.....
<input type="checkbox"/>	vibration	.....
<input type="checkbox"/>	others	.....
c. Biological Hazards:		
<input type="checkbox"/>	Viral	.....
<input type="checkbox"/>	Bacterial	.....
<input type="checkbox"/>	Fungal	.....
<input type="checkbox"/>	Parasitic	.....
<input type="checkbox"/>	Others	.....
d. Ergonomic Stress:		
<input type="checkbox"/>	Exhausting physical work	.....
<input type="checkbox"/>	Prolonged standing	.....
<input type="checkbox"/>	Low back pain	.....
<input type="checkbox"/>	Unfavorable work posture	.....
<input type="checkbox"/>	Static/monotonous work	.....
<input type="checkbox"/>	others, specify	.....

Submitted by:

.....
Medical Personnel/Title

.....
Date

Noted by:

.....
Employer

APPLICATION FOR BOILER/PRESSURE VESSEL INSTALLATION

1. Name of Establishment: _____
2. Address: _____
3. Owner/Manager and Address: _____
4. Where Boiler/Pressure Vessel is to be installed: _____

5. Plans to be submitted: Submit (in quadruplicate) the foundation plan with design, installation and location plans of the boiler/pressure vessel. The plans shall be prepared, signed, and sealed by a Professional Mechanical Engineer. Plans shall also bear the name and signature of owner or manager of the plant. The working drawing of the boiler/pressure vessel shall be submitted together with the First Inspection Report.
6. Boiler/Pressure Vessel Data:
 - (a) Manufacturer: _____
 - (b) Type: _____ (c) Serial Number: _____
 - (d) Place of Origin: _____ (e) Date of Make: _____
 - (f) Heating Surface: _____ (If inknown, approximate)
 - (g) Max. A.W.P. _____ (h) Horsepower/Cubic Feet: _____
7. Name and signature of Person to supervise the installation:

(Board of Mechanical Engineering Licence)
8. Other accessories or equipment: _____

Name and Signature of Owner/Manager

Application No. _____
Plan Fee _____
O.R. No. _____ Date _____
Date Received _____
Received by _____

APPLICATION FOR INTERNAL COMBUSTION ENGINE INSTALLATION

- 1. Name of Establishment: _____
- 2. Address: _____
- 3. Owner/Manager and Address: _____

- 4. Where machinery is to be installed: _____
- 5. Machinery Data:
 - (a) Namer: _____
 - (b) Type and Model: _____
 - (c) Bore: _____ (d) Stroke: _____
 - (e) No. of Cycl: _____ (f) Cycle: _____
 - (g) D.P. _____ (h) R.P.M.: _____
 - (i) Kind of I.C.E. _____ (j) Engine Weight: _____
- 7. Name and signature of Person to supervise the installation:

and _____
(Board of Mechanical Engineering License, if any)
- 8. Other accessories or equipment: _____

Name and Signature of Manager
Tax Account Number: _____

Application No.: I.C.E.: _____
Plan Fee: _____
O.R. No.: _____ Date: _____
Date Received: _____
Received by: _____

.....
Note: This application must be accompanied by a foundation and installation plan prepared, signed and sealed by a Professional Mechanical Engineer.

APPLICATION TO INSTALL ELEVATOR/MANLIFT/DUMBWAITER

1. Owner/Establishment: _____
2. Address: _____
3. Owner/Manager and Address: _____
4. Building where Elevator/Manlift/Dumbwaiter is to be installed: _____
No. of storeys: _____
5. Name and signature of Person to supervise the installation: _____

(Board of Mechanical Engineering Reg. No. _____ License No. _____)
6. When was building erected _____ Installation is an addition _____
Addition erected, when? _____
- 6A. Elevator; Check whether _____ Passenger or _____ Freight _____

S P E C I F I C A T I O N S

7. Type _____
(Traction, drum, double-belt, hydraulic, plunger)
Motive power: _____
(Hand, electric, direct-connected, steam, line-shaft)
8. Height of lift _____ Feet _____ inches, from _____ floor to _____ floor _____
9. Location of hoisting machine _____ No. of hoistway landings _____
10. Capacity _____ Weight of car complete _____ Speed _____ ft./m in. _____
11. Inside dimensions of car: _____ Construction of car frame: _____
12. Car enclosure: Material _____ No. of sides _____ height _____ Thickness _____
13. Top on car _____ Grilles _____ Mesh _____ Solid _____
Self-closing hinges section 18" in depth full width of car _____
(Yes or No)
14. Emergency exit in car: _____ Location: _____ Size: _____
Emergency switch in car: _____
15. Number of opening in car _____ No. of compartments in car _____
16. Gates on car at _____ sides; type _____
Height _____ contacts _____ Emergency release _____
17. Distance between controller and handle on car gate _____
hoistway gate or door _____
18. Electric light in car _____
19. Clearance between edge of car platform and landing sill _____
Edge of car platform and door used at landing sill _____
20. Overhead clearance: Distance of run by of car at upper limit of travel _____
21. Number of hoist cables _____ Material _____
Diameter _____ Roping 1 to 1 _____ 2 to 1 _____
22. Any cables outside of hoistway _____; guarded 7'0 from floor _____
23. Number of counterweight cables: Car _____ Drum _____
24. Diameter of smallest sheaves. Hoisting _____; counterweight _____
Compensating _____
25. Distance between top of counterweight and overhead beams when buffers are completely compressed _____
26. Pit buffers: Type _____; Compression _____
Counterweight buffers: Type _____; Compression _____
27. Number of counterweight sections _____ Weight of each section _____
Counterweight section and frames through-bolted _____

28. Counterweight guard: Entire travel _____; height from pit _____
Under clearance _____; compensating chains _____
29. Control: Automatic push button _____; constant-pressure push button _____
Switch _____ Hand cable _____; self-centering _____
30. Current: A.C. _____ D.C. _____ Reverse-phase relay to shunt type _____
31. Car guide rails _____ Dimensions _____
32. Counterweight guide rails _____ Dimensions _____
(Steel or wood)
33. Brake: Electromechanical _____; Mechanical _____
self-locking _____
34. Terminal limit stops _____
(on car) (in hoistway) (on machine) (on operating device)
Slack cable stop _____
35. Hoistway pit: Distance lowest landing to bottom pit _____
partition between adjacent pits _____; height _____
36. Rope lock _____ type _____ locking device for safe lift loads _____
37. Speed Governor: Type _____ Location _____
Safety Switch: On governor _____; on safety _____
38. Car safeties: Location _____; gradual _____
(Crosshead) (Bottom) (Clamp)
instantaneous (Roll, Ratchet, Cam) _____
39. Automatic speed retarder _____ Counterweight safeties _____
40. Platform under overhead sheaves and open spaces over hoistway
Material _____ Solid _____ Thickness _____
41. Skylight _____ Exterior window above platform _____
Exterior window immediately below platform _____
42. Width of flooring beyond contour of machine _____ Handrail _____
43. Distance from floor to center to bow on top of car (trap-door installation) _____
44. Signals _____ Type _____

Name & Signature of Owner/Manager

Establishment

EVDL No. _____
Plan Fee _____
O.R. No. _____
Date _____
Date Received _____
Received By _____

NOTE:

The detailed working drawings of the elevator/manlift/dumbwaiter, the hoistway and installation plans shall accompany this application and shall be prepared, signed and sealed by a PROFESSIONAL MECHANICAL ENGINEER.

Republic of the Philippines
Department of Labor and Employment
REGIONAL OFFICE NO.

**APPLICATION TO CONSTRUCT HOISTWAY AND
INSTALL GATES OR DOORS**

1. Owner/Establishment: _____
2. Address: _____
3. Owner/Manager: _____
4. Building where Elevator/Manlift/Dumbwaiter is to be installed: _____
No. of storeys: _____
5. Name and signature of Person to supervise the installation: _____

(Board of Mechanical Engineering Reg. No. _____ License No. _____)
6. When was building erected _____ Installation is an addition _____
Addition erected, when? _____
7. Hoistway: New; _____ existing _____; alteration _____
8. Elevator: Freight _____; Passenger _____
Automatic Push Button _____
Constant Push Button _____
Other Control _____

H O I S T W A Y

9. Fireproof enclosure _____ Material _____
(Concrete, tile, brick)
Minimum thickness _____ Entire height _____
10. Nonfireproof enclosure _____ Materials _____
(Walls, mesh work, grille-slatted partitions)
Height: Floor to ceiling landing sides _____;
(above floor other sides)
11. Hoistway roof: Material _____ Thickness _____
(Wood-concrete)
metal frame skylight 3/4 the area of shaft (yes or no) _____
12. Exterior window with metal frame and sash at top of hoistway _____
Above platform _____ Immediately below platform _____
13. Any ledges _____ How guarded _____ any recesses _____
(yes or no) (yes or no)
How guarded _____
14. Penthouse _____ Minimum headroom _____
Height entrance above building roof _____
15. Access to penthouse from roof _____ By iron stairs or ladder _____
(yes or no)
16. Angle of iron stairs or ladder less than 60 degrees from horizontal _____
Equipped with handrail 3'6" high _____
17. Electric light in penthouse _____ Electric light at all landings _____
(yes or no)
18. Size of hoistway _____
Nonslip threshold 18 inches wide from hoistway line (yes or no) _____
Across entire width (yes or no) _____
19. Distance lowest landing to bottom of pit _____ adjacent hoistways _____
Partition between _____ height _____

HOISTWAY GATES

- 20. Hinged _____ Slide _____
(Specify floors) (Specify floors)
- 21. Manually operated _____ Self-closing by action of car _____
- 22. Full automatic _____ Power driven _____
- 23. Contact _____ Interlock _____ Type of designation _____
Made by _____
- 24. Emergency release by contract or interlock _____
Type of designation _____ Made by _____
- 25. Locks on gates all floors _____ Openable by key floor side _____
Key box at bottom landing _____
- 26. Height of gates _____ Spacing between slats 2" or less _____
Underclearance when down _____
- 27. Gates all landings _____ Distance, inside of gate to hoistway line _____
Gate counterweight guarded _____

HOISTWAY DOORS

- 28. Fire doors _____ Type of designation _____
Made by _____
- 29. Hinged _____ Slide _____
(Specify floors) (Specify floors)
- 30. Manually operated _____ Self-closing by action of car _____
- 31. Full automatic _____ Power driven _____
- 32. Contact _____ Interlock _____ Type of designation _____
Made by _____
- 33. Emergency release for contact of interlock _____
Type of designation _____ Made by _____
- 34. Locks on doors all floors _____ Openable by key floor side _____
Key box at bottom landing _____
- 35. Doors all landings _____ Distance, inside of door to hoistway line _____
Door counterweights guarded _____

AUTOMATIC TRAP DOORS

- 36. Automatic trap doors _____ Floors _____
- 37. Standard railing _____ Distance to hoistway _____
All floors _____

Name & Signature of Owner/Manager

Establishment

EVDL No. _____
 Plan Fee _____
 O.R. No. _____
 Date _____
 Date Received _____
 Received by _____

NOTE:

The detailed working drawing of the hoistway, gates, doors and installation plans shall accompany this application and shall be prepared, signed and sealed by a PROFESSIONAL MECHANICAL ENGINEER.

BWC/ISD-T-9
(Temporary)

TO: Bureau of Labor Standards
Department of Labor and Employment
Intramuros, Manila

APPLICATION FOR BOILER/UNFIRED PRESSURE VESSEL FABRICATION
(cross out item not applied for)

1. Name of Manufacturer: _____
2. Address: _____
3. Manufactured for: _____
(Establishment and Address)
4. Where Boiler/Pressure vessel is to be installed: _____

5. BOILER/PRESSURE VESSEL DATA:
 - (a) Type: _____
 - (b) Kind: _____
 - (c) Heating Surface (Sq.Ft.) / Volume (Cu.Ft.) _____
(BOILER) (UNFIRED P.V.)
 - (d) Maximum A.W.P. _____
6. Name and Signature of Person to supervise the Fabrication:

Registration: _____ License No. _____
7. Additional Data Enclosed:
 - (a) Manufacturer's Data Report (4 copies)
 - (b) Detailed Construction Drawings (4 copies)

Name & Signature of Manufacturer

Application No. _____
Plan Fee _____
O.R. No. _____
Date _____
Date Received: _____
Received by: _____
Inspection Fee: _____

Republic of the Philippines
 Department of Labor and Employment
 Bureau of Working Conditions
 Intramuros, Manila

APPLICATION FOR ELECTRICAL WIRING INSTALLATION

Permanent() Temporary ()

To the Director
 Bureau of Working Conditions
 M A N I L A

Request if hereby made by the undersigned for a permit to install the electrical wiring and requirements enumerated in the premises:

1. Owner/Establishment: _____
2. Location of the installation: _____
3. Nature of Work or Process: _____
4. Type of Service:
 Voltage: _____ Phase: _____ No. of Service Wire: _____
5. Kind of Lead: (For additional space, use reverse side)

a. Light outlet _____	f. Electrical Motors _____	g. Special Equipment/ Apparatus (Indicate Phase and Voltage)
b. Snap switch _____	(Indicate Phase & Voltage)	
c. Conv. outlet _____	_____	_____
d. Bell system _____	_____	_____
e. Elect. Range _____	_____	_____
6. Occupancy: Industry () Commercial () Residential () Owners ()
7. Methods of Wiring: _____
8. Kind of Installations: New () Existing () Remodel () Additional ()
9. Name and signature of person to supervise the installation: _____

 (Board of Electrical Engineering Reg. No. _____ License No. _____)
10. Wiring plan submitted:
 No. of sets: _____ No. of sheets per set: _____
11. Remarks: _____

.....
 TO BE FILLED UP WHEN A CONTRACTOR IS HIRED

.....
 WHEN THERE IS NO CONTRACTOR

 Name & Signature of Owner/Manager

 Name & Signature of Owner/Manager

 Address of Office/Residence

 Address of Office/Residence

 Name & Signature of Contractor

 Tax Identification Number

.....
 EEDL NO. _____
 Plan Checking Fee: P _____
 O.R. NO. _____

.....
 Date Received: _____
 Received By: _____

DEPARTMENT ORDER NO. 13
Series of 1998

**GUIDELINES GOVERNING OCCUPATIONAL SAFETY AND HEALTH IN THE
CONSTRUCTION INDUSTRY**

In the interest of ensuring the protection and welfare of workers employed in the construction industry, the protection and welfare of the general public within and around the immediate vicinity of any construction worksite as well as the promotion of harmonious employer-employee relationships in the construction industry, and after consultations with the stakeholders in the construction industry, taking into consideration industry practices and applicable government requirement, the following guidelines are hereby issued for all concerned:

Section 1. Definition of Terms

As used herein, the terms below shall be defined as follows:

- a) **“Accredited organization”** means any organization duly accredited by the Department of Labor and Employment (DOLE) delegated or authorized to perform functions related to improvement of occupational safety and health in the form of training, testing, certification, safety and health auditing or any other similar activity.
- b) **“Certified first-aid”** means any person trained and duly certified or qualified to administer first-aid by the Philippine National Red Cross or by any organization accredited by the same.
- c.) **“Construction project manager/consultant”** means a person or entity who is hired by the project owner, to act in the owner’s behalf concerning supervision and monitoring of all matters related to the overall execution of a construction project. The construction project manager shall be a separate entity from the general constructor or any subcontractor of the construction project.
- d) **“Construction safety and health committee”** means the general safety and health committee for a construction project site that shall be the overall coordinator in implementing OSH programs.
- e) **“Construction safety and health officer”** means any employee/worker trained and, in addition to their regular duties and responsibilities, tasked by his employer to implement occupational safety and health programs in accordance with the provisions of the Occupational Safety and Health Standards (OSHS).
- f) **“Construction safety and health program”** refers to a set of detailed rules to cover the processes and practices that shall be utilized in a specific construction project site in conformity with the OSHS including the personnel responsible and the penalties for violations thereof.
- g) **“Construction safety signage”** refers to any, but not limited to, emergency or danger sign, warning sign or safety instruction, of standard colors and sizes in accordance with the specifications for standard colors of signs for safety instructions and warnings in building premises as described in Table II of OSHS.
- h.) **“Constructor”** is deemed synonymous with the term “builder.” It refers to any person or organization who undertakes or offers to undertake or purports to have the capacity to undertake or submits a bid to, or does himself or by or through others, construct, alter, repair, add to, subtract from, improve, move, wreck or demolish any building, highway, road, railroad, excavation or other structure, project development or improvement, or to do any part thereof, including the erection of scaffolding or other structures or works in connection therewith. The term constructor includes subcontractor and speciality contractor.

- i) **“Emergency health provider”** means any person or organization who is certified or recognized by the Department of Health and who can provide the same or equivalent emergency health services as an emergency hospital, including emergency treatment of workers on site, emergency transport and care during transport of injured workers to the nearest hospital, with adequate personnel, supplies and facilities for the complete immediate treatment of injuries or illnesses.
- j) **“General constructor”** means a constructor who has general supervision over instructions from the owner or construction project manager (if one is appointed by the owner).
- k) **“General safety and health inspection”** refers to inspection of the work environment, including the location and operation of machinery other than those covered by technical safety inspections, adequacy of work space, ventilation, lighting, conditions of work environment, handling, storage or work procedures, protection facilities and other safety and health hazards in the workplace.
- l) **“Heavy equipment”** refers to any machine with engine or electric motor as prime mover used for lifting, excavating, leveling, drilling, compacting, transporting and breaking works in the construction site, such as but not limited to crane, bulldozer, backhoe, grader, road compactor, prime mover and trailer, with minimum operating weight and horsepower rating of 1,000 KG and 10 HP, respectively.
- m) **“Imminent danger”** means a condition or practice that could reasonably be expected to cause death or serious physical harm before abatement under normal enforcement procedures can be accomplished.
- n) **“Occupational health personnel”** refers to qualified first-aiders, nurse, dentist, or physician, engaged by the employer to provide occupational health services in the establishment/undertaking.
- o) **“Project manager”** means the overall technical personnel of the general contractor and /or the subcontractor in charge of the actual execution of a construction project.
- p.) **“Resident engineer”** means a duly licensed engineer who shall be tasked to be present at the construction site at all times, whenever work is being undertaken, and shall have the responsibility of assuring the technical conformance of all designs, materials, processes, work procedures rendered for the execution of the construction project, including safety and health of all persons within the construction site.
- q) **“Safety and health audit”** refers to a regular and critical examination of project sites, safety programs, records and management performance on program standards on safety and health.
- r) **“Safety and health committee”** means a group tasked with the authority to monitor, inspect, and investigate all aspects of the construction project pertaining to health and safety of construction workers.
- s) **“Safety organization”** means any organization recognized and accredited by the DOLE to conduct occupational safety and health training and / or safety and health audit.
- t) **“Safety personnel”** refers to any person engaged by any constructor, trained, accredited by DOLE and tasked to provide occupational safety and health services for the workers/employees in any construction project.
- u) **“Skills standards”** refers to the written specification of the minimum stock knowledge and skills a worker should possess to perform the functions identified in the job description of his occupation.
- v) **“Technical safety inspection”** refers to inspection for the purpose of safety determination of boilers, pressure vessels, internal combustion engines, electrical installations, elevators, hoisting equipment and other mechanical equipment.

- w) **“Trade test”** refers to an instrument used to measure workers’ skills and knowledge based on the requirements of the skills.
- x) **“Treatment room”** refers to any enclosed area or room equipped with the necessary medical facilities and supplies, and located within the premises of the establishment where worker may be brought for examination and treatment of their injuries or illnesses in case of emergency.
- y) **“Tool box meeting or gang meeting”** refers to daily meeting among workers and their respective supervisors for the purpose of instruction, discussion and proper briefing on the planned work, the assessment of past work, the possibility or actual occurrence of accidents at the site, tips and suggestions on how to prevent possible accidents and other related matters.
- z) **“Unguarded surface”** refers to any working surface above water or ground, temporary or permanent floor platform, scaffold construction or wherever workers are exposed to the possibility of falls hazardous to life or limb.

Section 2. Jurisdiction

The DOLE, through the Secretary of Labor and Employment, has the exclusive jurisdiction in the preparation of Occupational Safety and Health Standards (OSHS) for the Construction Industry including its very enforcement, as provided by the law.

- 2.1 As embodied in Article 162, Chapter 2, Title 1 of Book Four of The Labor Code of The Philippines, “The Secretary of Labor and Employment shall by appropriate orders set and enforce mandatory occupational safety and health standards to eliminate or reduce occupational safety and health hazards in all workplaces and institute new and update existing programs to ensure safe and healthful working conditions in all places of employment.”
- 2.2 As embodied in Article 165, Chapter 2, Title 1 of Book Four of The Labor Code of the Philippines,“(a) The Department of Labor and Employment shall be solely responsible for the administration and enforcement of occupational safety and health laws, regulations and standards in all establishments and workplaces wherever they may be located.”

Section 3. Delegation of Authority and Accreditation

The authority to enforce mandatory occupational safety and health standards in the construction industry may be delegated in part by the Secretary of Labor and Employment, under the following conditions:

- a) Chartered Cities and Municipalities may be allowed to conduct Technical Safety Inspections and general safety audit of construction project sites within their respective jurisdiction where they have adequate facilities and competent personnel for the purpose as determined by the DOLE and subject to national standards established by the latter, provided they submit for approval an application for such authority.
- b) Private Safety Organizations with adequate facilities and competent personnel for the purpose, may be accredited by the DOLE to conduct technical and/or general Safety and Health Audit of construction project sites, for and in behalf of the company or establishment.
- c) Accreditation of safety organizations and practitioners shall be in accordance with Rule 1030 of the OSHS.

Section 4. Coverage

This issuance shall apply to all operations and undertakings in the construction industry and its subdivisions, namely, general building construction, general engineering construction and special trade construction, based on the classification code of the Philippine Contractors Accreditation Board (PCAB) of the Construction Industry Authority of the Philippines (CIAP); to companies and entities involved in demolition works; and to those falling within the construction industry as may be determined by the Secretary of Labor and Employment.

Section 5. Construction Safety and Health Program

Every construction project shall have a suitable Construction Safety and Health Program, which must be in accordance with these rules, and other orders and issuances issued by the DOLE. The Construction Project Manager, or in his absence, the Project Manager as authorized by the owner, shall be responsible for compliance with this Section.

- 5.1 The Construction Safety and Health Program shall state the following:
 - a) composition of the Construction Safety and Health Committee, if one has been formed, otherwise, an undertaking to organize such committee and appoint its members before the start of construction work at the project site;
 - b) specific safety policies which the General Constructor undertakes to observe and maintain in its construction site, including the frequency of and persons responsible for conducting toolbox and gang meetings;
 - c) penalties and sanctions for violations of the Construction Safety and Health Program;
 - d) frequency, content and persons responsible for orienting, instructing and training all workers at the site with regard to the Construction Safety and Health Program under which they operate; and
 - e) the manner of disposing waste arising from the construction.
- 5.2 The Construction Safety and Health Program shall be executed and verified by the Construction Project Manager or Project Manager and shall be submitted to the Bureau of Working Conditions (BWC) which may approve, disapprove or modify the same according to existing laws, rules and regulations and other issuances by the DOLE.
- 5.3 The cost implementing the Construction Safety and Health Program shall be integrated into the project's construction cost, provided, that said cost shall be a separate pay item, duly quantified and stated in the project's tender documents and construction contract documents.

Section 6. Personal Protective Equipment

Every employer shall, at his own expense, furnish his workers with protective equipment for eyes, face, hands and feet, lifeline, safety belt / harness, protective shields and barriers whenever necessary by reason of the hazardous work process or environment, chemical or radiological or other mechanical irritants or hazards capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical agent.

Provision of Personal Protective Equipment (PPE) shall be in accordance with Rule 1080 of the OSHS. The equivalent cost for the provision of PPE (life span, depreciation, replacement, etc.) shall be an integral part of the project cost.

- 6.1 The employer shall provide adequate and approved type of protective equipment. Workers within the construction project site shall be required to wear the necessary PPE at all times.
- 6.2 Construction workers who are working from unguarded surfaces six (6) meters or more above water or ground, temporary or permanent floor platform, scaffold or where they are exposed to the possibility of falls hazardous to life or limb, must be provided with safety harnesses and life lines.
- 6.3 Specialty construction workers must be provided with special protective equipment, such as specialized goggles or respirators for welders and painters or paint applicators.
- 6.4 All other persons who are either authorized or allowed to be at a construction site shall wear appropriate PPE.

Section 7. Safety Personnel

To ensure that a Construction Safety and Health Program is duly followed and enforced at the construction site, each construction project site is required to have the minimum required Safety Personnel, as described herein:

- 7.1 The General Constructor must provide for a full time officer, who shall be assigned as the general construction safety and health officer to oversee full time the overall management of the Construction Safety and Health Program.

The general construction safety and health officer shall frequently monitor and inspect any health and safety aspect of the construction work being undertaken. He shall also assist government inspection at any time whenever work is being performed or during the conduct of accident investigation.

- 7.2 The General Constructor must provide for additional Construction Safety and Health Officer/s in accordance with the requirements for Safety Man/Officer of Rule 1033 (Training and Personnel Complement), depending on the total number of personnel assigned to the construction project site, to oversee the effective compliance with the Construction Safety and Health Program at the site, under the direct supervision of the general construction safety and health officer.
- 7.3 The General Constructor must provide for one (1) Construction Safety and Health Officer for every ten (10) units of heavy equipment assigned to the project site, to oversee the effective compliance with the Construction Safety and Health Program at the construction project site, in terms of heavy equipment utilization and maintenance.
- 7.4 Each construction subcontractor must provide for a representative, who shall have the same qualifications as a Safety Man/Officer, to oversee the management of the Construction Safety and Health Program for the subcontractor's workforce with the requirements of Rule 1033 of the OSHS.

All safety personnel who will be employed by an employer on full-time basis should be accredited by the BWC of the DOLE.

Section 8. Emergency Occupational Health Personnel and Facilities

- 8.1 The construction project owner or his duly authorized representative shall provide competent emergency health personnel within the worksite duly complemented by adequate medical supplies, equipment and facilities, based on the total number of workers in the site as indicated below:

- a) The services of a certified first-aider when the total number of workers is fifty (50) or less;
- b) The services of a full-time registered nurse when the total number of workers exceeds fifty (50) but not more than two hundred (200);
- c) The services of a full-time registered nurse, a part-time physician and a dentist, and an emergency clinic when the total number of workers exceeds two hundred (200) but not more than three hundred (300); and
- d) The services of a full-time registered nurse, a full-time physician, a dentist and an infirmary or emergency hospital with one (1) bed capacity when the number of employees exceed three hundred (300). In addition, there should be one (1) bed capacity for every one hundred (100) employees in excess of three hundred (300).

- 8.2 Where an employer provides only a treatment room, he shall provide for his workers in case of emergency, access to the nearest medical/dental clinic located within five (5) kilometers radius from the workplace and can be reached in twenty-five(25) minutes of travel. Such access shall include the necessary transportation facilities. In such situation, there shall be a written contract with the medical/dental clinic to attend to such workplace emergencies.

- 8.3 The engagement of an Emergency Health Provider for the construction project site shall be considered as having complied with the requirement of accessibility to the nearest hospital facilities.
- 8.4 The employer shall always have in the construction site the required minimum inventory of medicines, supplies and equipment as indicated in Table 47 of the OSHS.

Section 9. Construction Safety Signages

Construction Safety Signages must be provided to warn the workers and the public of hazards existing in the workplace. Signages shall be posted in prominent positions at strategic locations and, as far as practicable, be in the language understandable to most of the workers employed.

- 9.1 The signages include but are not limited to:
- a) Mandatory requirement on the usage of personal protective equipment prior to entry to the project site.
 - b) Areas where there are potential risks of falling objects.
 - c) Areas where there are potential risks of falling.
 - d) Areas where explosives and flammable substances are used or stored.
 - e) Areas where there are tripping or slipping hazards.
 - f) Approaches to working areas where danger from toxic or irritant airborne contaminants /substances may exist which should indicate the name of the contaminant/substance involved and the type of respiratory equipment to be worn.
 - g) All places where contact with or proximity to electrical/facility equipment can cause danger.
 - h) All places where workers may come in contact with dangerous moving parts of machineries or equipment.
 - i) Location of fire alarms and fire fighting equipment.
 - j) Instructions on the usage of specific construction equipment.
 - k) Periodic updating of man-hours lost.
- 9.2 Signages should be regularly inspected and maintained in good condition. Signages that are damaged or illegible or that no longer apply should be removed and replaced by the safety officer, as needed.

Section 10. Safety on Construction Heavy Equipment

In relation to heavy equipment operation in all construction sites, the following are required in the different phases of the project.

10.1 Pre-Construction

The General Constructor must ensure that appropriate certification is obtained from DOLE duly accredited organizations for the following:

- a) All heavy equipment operators assigned at the project site must be tested and certified in accordance with a standard trade test prescribed by Technical Education and Skills Development Authority (TESDA) in coordination with its accredited organization/s.

- b) All heavy equipment must be tested and certified in accordance with the standards prepared by DOLE or its recognized organization/s prior to commissioning of said equipment.

10.2 During Construction

The General Constructor must ensure that the following conditions are met or complied with:

10.2.1 Mobilization or Transport of Heavy Equipment.

- a) Load restriction of trailers carrying such heavy equipment.
- b) Load restrictions, height and width clearances as imposed by Department of Public Works and Highways (DPWH) for all roads and bridges to be utilized during transport.
- c) Only duly certified operators are allowed to load and unload heavy equipment to trailer.
- d) Equipment to be transported must be properly secured to the trailer.

10.2.2 Erection / Set-up of Heavy Equipment

- a) Existing hazards must be avoided.
- b) Standard checklist of steps and procedures must be observed.
- c) List of necessary equipment, tools and materials must be available and properly utilized.

10.2.3 Routine Inspection

In the interest of accident prevention, duly certified mechanics and operators shall conduct daily routine inspection of all heavy equipment deployed at the site in accordance with standards set by TESDA in coordination with the Association of Construction Equipment Lessors (Acel, Inc.).

- a) Routine inspection of all heavy equipment must be performed by DOLE accredited professionals in accordance to standards set by DOLE recognized equipment suppliers.
- b) All equipment which do not comply with the minimum certification shall be immediately removed from the work site for restoration or repair until they meet said standards or requirements.

The General Constructor and the equipment owner shall maintain a separate logbook for data on maintenance, repairs, tests and inspections for each heavy equipment. Such logbook shall be used as a necessary reference during the conduct of equipment inspection.

10.2.4 Certified Operators

- a) Only duly certified operators shall be allowed to operate their designated heavy equipment.
- b) All operators and riggers must wear personal protective equipment as prescribed in the above pertinent section.

10.3 Post-Operation and Post-Construction

The procedures for dismantling and demobilization of heavy equipment shall follow the same requirements as listed under 10.2.1 and 10.2.2 above.

Section 11. Construction Safety and Health Committee

11.1 Composition

To ensure that these rules and Construction Safety and Health Program are observed and enforced at the project site, each site shall, at the start of the construction have a construction safety and health committee composed of the following personnel as prescribed under Section 7 above:

- a) Project Manager or his representative as the chairperson ex officio;
- b) General Construction Safety and Health Officers;
- c) Construction Safety and Health Officers;
- d) Safety representatives from each subcontractor;
- e) Doctors, Nurses and other Health Personnel, pursuant to the requirements stated in Rule 1042 of the OSHS, who shall be members ex officio;
- f) Workers' representatives (minimum of 3, union members if organized, not necessarily from one employer).

The persons constituting the Safety and Health Committee shall, as far as practicable, be found at the construction site whenever construction work is being undertaken.

The time spent by the members of the Safety and Health Committee in the performance of their duties such as committee meetings, seminars and training, investigation and other tasks that maybe assigned or planned by the committee shall be considered hours worked and therefore compensable time.

11.2 Authority and Duties of the Construction Safety and Health Committee

The chairperson shall convene the Construction Safety and Health Committee at regular intervals so as to effectively and efficiently monitor the implementation of the Construction Safety and Health Program. As such, he shall have the following duties:

- a) plan, develop and oversee the implementation of accident prevention programs for the construction project;
- b) direct the accident prevention efforts for the construction project in accordance with these rules and the Construction Safety and Health Program;
- c) initiate and supervise the conduct of brief safety meetings or toolbox meetings everyday;
- d) review reports of safety and health inspections, accident investigations;
- e) prepare and submit to DOLE reports on committee meetings;
- f) provide necessary assistance to government inspecting authorities in the proper conduct of their enforcement and other activities;
- g) initiate and supervise safety and health training for employees;
- h) develop and maintain a disaster contingency plan and organize such emergency service units as may be necessary to handle disaster situations; and
- i) perform all duties provided in the Construction Safety and Health Program or those that are necessary and incidental to the fulfillment of their duties herein described.

Section 12. Safety and Health Information

- 12.1 Workers should be adequately and suitably:
- a) informed of potential safety and health hazards to which they may be exposed at their workplace; and
 - b) instructed and trained on the measures available for the prevention, control and protection against those hazards.
- 12.2 No person shall be deployed in a construction site unless he has undergone a safety and health awareness seminar conducted by the Occupational Safety and Health Center (OSHC), BWC and other concerned offices of DOLE or by safety professionals or safety organizations or other institutions DOLE has accredited or recognized. The DOLE in collaboration with constructors shall promote programs for the implementation of these awareness seminars for construction workers.
- 12.3 Every worker shall receive instruction and training regarding the general safety and health measures common to construction sites which shall include:
- a) basic rights and duties of workers at the construction site
 - b) means of access and egress both during normal work and in emergency situations
 - c) measures for good housekeeping
 - d) location and proper use of welfare amenities and first-aid facilities
 - e) proper care and use of items or personal protective equipment and protective clothing provided the workers
 - f) general measures for personal hygiene and health protection
 - g) fire precautions to be taken
 - h) action to be taken in case of any emergency
 - i) requirements of relevant health and safety rules and regulations.
- 12.4 The instruction, training and information materials, shall be given in a language or dialect understood by the worker. Written, oral, visual and participative approaches shall be used to ensure that the worker has assimilated the material.
- 12.5 Each supervisor or any designated person (e.g. foreman, leadman, gangboss, etc.) shall conduct daily tool box or similar meetings prior to starting the tasks for the day to discuss with the workers and anticipate safety and health problems related to every task and the potential solutions to those problems. The supervisor shall remind the workers on the necessary safety precautions that need to be undertaken.
- 12.6 Specialized instruction and training should be given to:
- a) drivers and operators of lifting appliances, transport, earth-moving and materials-handling equipment and machinery or any equipment of specialized or dangerous nature;
 - b) workers engaged in the erection or dismantling of scaffolds;
 - c) workers engaged in excavations at least one meter deep or deep enough to cause danger, shafts, earthworks, underground works or tunnels;

- d) workers handling explosives or engaged in blasting operations;
- e) workers engaged in pile-driving;
- f) workers working in compressed air, cofferdams and caissons;
- g) workers engaged in the erection of prefabricated parts of steel structural frames and tall chimneys, and in concrete work, form work and other such work;
- h) workers handling hazardous substances and materials;
- i) workers as signalers; and
- j) other workers as maybe categorized by TESDA.

Section 13. Construction Safety and Health Training

The basic construction safety and health training shall be a forty (40)-hour training course as prescribed by the BWC. The training course shall include the provisions of Rule 1410 of the OSHS. The BWC, from time to time, may modify the basic construction safety and health training course, as the need arises.

All safety personnel involved in a construction project shall be required to complete such basic training course. Every constructor shall provide continuing construction safety and health training to all technical personnel under his employ. Continuing training shall be a minimum of 16 hours per year for every full-time safety personnel.

Section 14. Construction Safety and Health Reports

All general constructors shall be required to submit a monthly construction safety and health report to BWC or to the DOLE Regional Office concerned. The report shall include a monthly summary of all safety and health committee meeting agreements, a summary of all accident investigations/reports and periodic hazards assessment with the corresponding remedial measures/actions for each hazard.

In case of any dangerous occurrence or major accident resulting in death or permanent total disability, the concerned employer shall initially notify the DOLE Regional Office within twenty-four (24) hours from occurrence. After the conduct of investigation by the concerned construction safety and health officer, the employer shall report all permanent total disabilities to DOLE Regional Office on or before the 20th of the month following the date of occurrence of accident using the DOLE/BWC/HSD-IP-6 form.

Section 15. Construction Workers Skills Certificates

In order to professionalize, upgrade and update the level of competence of construction workers, the TESDA shall:

- a) establish national skills standards for critical construction occupations;
- b) prepare guidelines on skills testing and certification for critical construction occupations;
- c) accredit construction sector organizations in the area of skills training and trade testing; and
- d) extend relevant assistance to construction sector organizations.

An occupation shall be considered critical

- a) when the performance of a job affects and endangers people's lives and limbs;
- b) when the job involves the handling of tools, equipment and supplies;
- c) when the job requires a relatively long period of education and training;
- e) when the performance of the job may compromise the safety, health and environmental concerns within the immediate vicinity of the construction site.

Section 16. Workers' Welfare Facilities

The employer shall provide the following welfare facilities in order to ensure humane working conditions:

16.1 Adequate supply of safe drinking water.

- a) If the water used in common drinking areas, it should be stored in closed containers from which the water is dispensed through the taps or cocks. So such containers should be cleaned and disinfected at regular intervals not exceeding fifteen (15) days.
- b) Notices shall be conspicuously posted in locations where there is water supply that is not fit for drinking purposes.

16.2 Adequate sanitary and washing facilities.

- a) Adequate facilities for changing and for the storage and drying of work clothes.
- b) Adequate accommodation for taking meals and shelter.

16.3 Suitable living accommodation for workers, and as may be applicable, for their families.

16.4 Separate sanitary, washing and sleeping facilities for men and women workers.

Section 17. Cost of Construction Safety and Health Program

The total cost of implementing a Construction Safety and Health Program shall be a mandatory integral part of the project's construction cost as a separate pay item, duly quantified and reflected in the Project's Tender Documents and likewise reflected in the Project's Construction Contract Documents.

Section 18. Miscellaneous

All provisions of other existing occupational safety and health guidelines not inconsistent with the above Guidelines shall form part of this Department Order.

All provisions of other existing occupational safety and health standards, rules and regulations not specifically provided herein shall remain in full force and effect.

In the event that any provision of this Guidelines is declared invalid by competent authority, the rest of the provisions thereof not affected shall remain in full force and effect.

Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Manila

MEMORANDUM CIRCULAR NO. 02
Series of 1998

SUBJECT: Technical Guidelines for Classifying Hazardous and Non-Hazardous Establishments, Workplaces and Work Processes

By virtue of Article 5 and Article 162 of the Labor Code of the Philippines, as amended, and its implementing rules and regulations, the following Guidelines is hereby issued governing the general classification of hazardous and non-hazardous establishments.

Section 1. Purpose

This Guidelines shall be used by labor standards enforcement officers of the Department of Labor and Employment (DOLE), employers and employees in the application of the provisions of the Occupational Safety and Health Standards (OSHS), specifically, Rule 1030 (Training of Personnel in Occupational Safety and Health); Rule 1013 (Hazardous Workplaces); and Rule 1960 (Occupational Health Services).

Section 2. Definition of Terms

As used in this Guidelines, the following terms shall mean:

- a) **"Biologic agents"** refers to any organism classified under viral or rickettsial or chlamydial, bacterial, fungal parasites and any other living organism that can cause a disease in human beings.
- b) **"Disabling injury"** refers to work-related injury suffered by an employee which results in death, or in permanent total or partial disability, or in temporary total or partial disability as defined in applicable laws and guidelines.
- c) **"Establishments"** refers to any single proprietorship, partnership, corporation or similar entity operating an economic activity and engaging the services of workers. **"Hazardous establishment"** is one in which the employee is exposed to potential risks of disabling injury, illness or death, either because of the presence of biologic agents, radiation, chemicals, substances, hazardous materials or physical hazards in the work environment, or because of the nature of the work processes performed or equipment used therein.
- d) **"Hazardous materials or substances"** refer to substances in solid, liquid or gaseous form known to constitute toxic, flammable, explosive, corrosive, oxidizing and radioactive properties.
- e) **"Hazardous work processes"** refer to work operations or practices performed by a worker in the establishment or workplace in conjunction with or as an incident to such operations or practices and which expose the employee to hazards likely to cause any disabling injury, illness, death or physical or psychological harm.
- f) **"Ionizing radiation"** refers to radiation occurring when energy is absorbed by living matter, inducing ionization which may in turn kill or modify living cells. **"Non-ionizing radiation"** refers to radiation from infra-red, ultra-violet, visible light, microwave, radiowave and ultra-sound exposure which does not contain enough energy to smash molecules or does not have the capability of inducing ionization of living cells.
- g) **"Power tools"** refer to any hand or portable tools which are driven pneumatically, or by electricity, mechanical means, or explosive charge.

- h) **“Work environment”** refers to the combination of all physical, biological, medical, physiological, psychological, social, technological and technical factors in the workplace that affect workers.
- i) **“Workplace”** refers to the office, premises or worksite where a worker is temporarily or habitually assigned. Where there is no fixed or definite workplace, the term shall include the place where the worker actually performs regular work, or where he regularly reports to render service or to take an assignment. **“Hazardous workplace”** refers to a specific area within an establishment where a worker is exposed to potential risks of disabling injury, illness or death, but may exclude other areas within the same establishment where such risks are not present.

Section 3. Criteria for Classifying Hazardous Establishments or Workplaces

An establishment or workplace may be classified as hazardous if any of the conditions provided under Rule 1013 of the OSHS has been confirmed, as follows:

- a) Where the nature of the work exposes the workers to dangerous environmental elements, contaminants or work conditions including ionizing radiation, chemicals, fire, flammable substances, noxious components and the like;
- b) Where the workers are engaged in construction work logging, fire fighting, mining, quarrying, blasting, stevedoring, dock work, deep-sea fishing and mechanized farming;
- c) Where the workers are engaged in the manufacture or handling of explosives and other pyrotechnics products;
- d) Where the workers use or are exposed to power-driven or explosive powder actuated tools; and
- e) Where the workers are exposed to biologic agents like bacteria, fungi, viruses, protozoa, nematodes and other parasites.

Section 4. Criteria for Classifying Hazardous Processes, Activities or Operations

The following processes, activities or operations may be classified as hazardous:

- a) Manufacture or handling of hazardous materials or substances, including explosives and pyrotechnic products; liquefied petroleum gas (LPG) and petrochemical products; toxic or corrosive chemicals or mixtures or combination thereof; fertilizers and pesticides (particularly those banned or restricted pursuant to FPA Circular No. 04, Series of 1989); radioactive isotopes, substances, or materials, highly flammable and toxic gases; flammable and combustible liquids (e.g., paints, thinners, alcohol); glass and other similar products; combustible metals (e.g., magnesium, titanium) in large quantities; asbestos and other similar products.
- b) Hazardous work processes or operations, including productions of chemicals which may expose workers to harmful levels of such chemicals; machining, hot welding and cutting operations; mining, quarrying, drilling, blasting and other related operations; construction and demolition works as defined by DOLE; logging and woodworking operations involving the use of power tools; metal milling, fabrication, forming, cutting and other similar processes; operations involving the use of thermal equipment such as furnaces and induction heaters used in the manufacture of plastics or metal products; operation or use of pressurized equipment or tools with operating pressures of 15 psig. or higher; and operations involving work in confined spaces where there is probability of workers being exposed to oxygen-deficient, toxic or explosive atmosphere.

Section 5. Criteria for Classifying Exposure to Environmental Elements as Hazardous

The following degrees or types of exposure to particular environmental elements may be classified as hazardous:

- a) Exposure to airborne contaminants, if the nature of regular or normal work process exposes an employee to conditions over normal levels of intake of or exposure to airborne contaminants, as provided for in Table 8-Threshold Limit Values for Airborne Contaminants of the OSHS;
- b) Exposure to biologic agents in accordance with varying occupational conditions, taking into account the biologic hazards to employees in terms of direct exposure; the risk from prolonged or repeated exposure; and the concentration level or dose of exposure;
- c) Exposure or risk of exposure to ionizing radiation in doses exceeding 1 millisievert per year (mSv/yr.) or 100 milliRem per year (mRem/yr.) of ionizing radiation shall be classified as hazardous (e.g., processes that involve the use of x-ray equipment and other similar radiation sources);
- d) Exposure to fields of radio-frequency (RF) and microwave (MW) radiation with power densities equal to or greater than 5 milliwatt per square centimeter (mW/cm²) or an average specific absorption rate equal to 4 W/kg. or greater (e.g., immediate vicinity of radio and television transmission towers and antennas);
- e) Exposure to infra-red radiation in doses of at least 10 mW/cm² for more than five (5) minutes, such workplace is considered hazardous (e.g., operations involving the use of infra-red light sources for the protection of photosensitive materials and processes);
- f) Exposure to ultraviolet (UV) radiation at an energy level of at least 6.0 mJ/cm² (millijoule per square centimeter) and wavelength above 300 nm. (nanometers), or where the workers' eyes are exposed to UV radiation at an energy level of 4.0 mJ/cm² (e.g., processes which involve the use of UV light in order to enhance contrast as in fine embroidery work); and
- g) Exposure to visible light radiation with a dose of 10 mJ/cm² (e.g., high intensity lasers; activities such as filming or shooting which employ the use of high capacity lamps or light sources).

Section 6. Criteria for Classifying the Use of or Exposure to Power-Driven and Similar Tools

The use of or exposure to power-driven, pressure-driven or explosive powder-actuated tools may be classified as hazardous, subject to the following conditions:

- a) The presence of power tools in certain areas of an establishment shall not warrant automatic classification of the entire establishment as hazardous. Such classification may be justified when the normal operation of the tools has the potential of at least causing a disabling injury, or when the tools are used in the course of regular operation or part of the regular production process. An operation shall be considered regular if it is performed for the purpose of completing a normal production cycle;
- b) An establishment or workplace using a power tool as part of regular processes or operations may be considered as hazardous:
 - i. If the power tool has an exposed moving, cutting, shearing, boring, drilling, or sharp edge and is capable of causing any form of disabling injury during its normal operation;
 - ii. If it has heated or heat-producing parts which can come into contact with an employee's body and has enough heat to cause at least first degree burns;
 - iii. If it has an exposed reciprocating, moving or percussion-actuated part between which any part of an employee's body may get caught, thereby causing any form of disabling injury.
 - iv. If it generates noise equal to or above the permissible noise level under Rule 1074 of the OSHS.

- v. If it normally emits any airborne contaminant above the prescribed Threshold Limit Value (TLV) of the OSHS.
- vi. Where there is a strong possibility of contact with any energized part with a potential difference of at least 50 volts AC or DC during the normal operations of the tool;
- vii. Where the part of the tool in contact with the worker's hand or body produces significant vibrations; and
- viii. If the tool is not provided with suitable and effective safety control mechanism.

Section 7. Application of Criteria

In applying the sets of criteria prescribed in the foregoing provisions, the following general principles shall be observed;

- a) No establishment or workplace shall be classified as hazardous except on the basis of a duly-validated hazards evaluation and assessment of physical conditions conducted by DOLE labor standards enforcement officers or other authorized government authorities.
- b) Every hazards evaluation and assessment shall consider, among others, the quantity of hazardous materials or substances involved, the hazardous work processes or operations undertaken, the number of workers affected, the period of exposure, and the effectiveness of preventive or control measures that have been set in place in the establishment or workplace.
- c) In the absence of technical or medical knowledge or substantial information, a particular workplace or all workplaces in the entire establishment may be presumed as hazardous, until further investigation can prove otherwise, where employees manifest symptoms or evidence of harmful exposure to any hazardous chemicals or conditions arising from the performance of their work.

This Circular shall take effect upon its issuance, for the information and guidance of all concerned.

Manila, Philippines, 19 June 1998.


JOSE M. ESPAÑOL, JR.
Acting Secretary

Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Intramuros, Manila

MEMORANDUM CIRCULAR NO. 01
Series of 2000

For: All Regional Directors

SUBJECT: Implementing Guidelines for the Conduct of Workplace Environment Assessment (WEA) in Hazardous Establishments and Work Processes

In the interest of protecting the welfare of workers from hazardous conditions and work processes in establishments and to institutionalize WEA as part of regular inspection the following guidelines are hereby prescribed for the conduct of WEA activities:

Section 1. Scope

These guidelines shall be observed by the Department of Labor and Employment (DOLE) inspectorate in applying Rule 1070 (Occupational Health and Environmental Control) and other relevant rules of the Occupational Safety and Health Standards.

Section 2. Objectives

In order to systematize collection, detection and measurement of representative samples from the work environment and to evaluate hazards and determine levels of exposure to physical factors, chemical substances, and hazardous materials or substances, the labor inspectors may conduct WEA with the following objectives:

- a) To determine the extent of exposure to harmful levels of physical and chemical agents as well as hazardous materials present in the workplace using as reference the Philippine Occupational Safety and Health Standards (OSHS), as amended.
- b) To evaluate both actual and potential exposures to environmental hazards encountered by workers.
- c) To set inspection priorities based on regional assessment of WEA data.
- d) To utilize obtained measurements for recommending appropriate control measures in the workplace in order to minimize the exposure levels, if not to eliminate the hazards.
- e) To provide policy formulators with WEA data which will be used for improvement of Philippine Standards and other issuances.

Section 3. Definition of Terms

The following terms as used in these guidelines and in the field shall have the meanings as stated:

- a) "Work environment"-refers to the combination of all physical, biological, chemical, medical, physiological, psychological, social, technological and technical elements that directly affect the workplace.
- b) "Physical factors or hazards"-refer to temperature, humidity, noise, ionizing radiation, abnormal pressure (due to altitude), ventilation, illumination and the like which may place added stress on the body.
- c) "Chemical substance"-means any organic or inorganic substance of a particular identity, any element or uncombined chemical and any combination of such substances, or any mixture of two or more chemical substances.

- d) "Hazardous materials or substances"-refer to substances in solid, liquid or gaseous forms known to constitute toxic, flammable, explosive, corrosive, oxidizing and radioactive properties.
- e) "Establishment"-refers to any single proprietorship, partnership, corporation or similar entity operating an economic activity and engaging the services or workers.
- f) "Hazardous establishment"-is one where the employee is exposed to potential risk of disabling injury, illness or death, either because of the presence of biologic agents, radiation, chemical substances, hazardous materials or physical hazards in the work processes performed or equipment used therein.
- g) "Hazardous work processes"-refer to work operations or practices performed by a worker in the establishment or workplace in conjunction with or as an incident to such operations or practices and which expose the worker to hazards likely to cause any disabling injury, illness, death or physical or physiological harm.
- h) "Imminent danger"-means a condition or practice that could reasonably be expected to cause death or serious physical harm before abatement under the normal enforcement procedures can be accomplished.

Section 4. Functions and Responsibilities of DOLE Regional Offices

The DOLE Regional Offices shall be tasked with the following functions and responsibilities:

- a) To keep an updated list of establishments in their jurisdiction classified as hazardous or having hazardous work processes pursuant to the guidelines set by Memorandum Circular No. 2 series of 1998.
- b) To identify establishments where WEA activities shall be prioritized based on the following criteria:
 - i) establishments where conditions and processes pose imminent danger on the worker (e.g., presence of hazardous airborne contaminants);
 - ii) establishments with dangerous occurrence resulting from hazardous work processes;
 - iii) establishments where WEA is needed to aid in the resolution of current occupational safety and health concerns that are of national significance; and
 - iv) establishments identified with Occupational Safety and Health (OSH) complaints.
- c) To determine reasonable monthly targets for the conduct of WEA activities in their jurisdiction.
- d) To develop WEA database using information collected from inspection activities.
- e) To allocate adequate funds for the support and conduct of WEA activities.
- f) To coordinate with any department, bureau, office, agency, educational institutions and other resources, as the need arises, in the discharge of its OSH related functions.
- g) To provide the Bureau of Working Conditions (BWC) with data on the WEA activities and findings made on establishments in aid of its standards setting and policy formulation.

Section 5. Duties of Labor Inspectors

The labor inspectors who have adequate training in WEA shall be tasked with the following responsibilities:

- a) To implement WEA activities in establishments prioritized for inspection using the appropriate industrial hygiene instruments.

- b) To validate findings of WEA conducted in establishments by personnel other than DOLE in the establishments.
- c) To record data obtained from WEA activities in IF-5 (hereto attached as Annexure "A" and Guidelines in Accomplishing Supplemental Form IF No. 5 as Annexure "B") which shall correspondingly be submitted together with Inspection Form No. 3 to BWC.
- d) To send collected samples, where laboratory analysis is needed, for analysis to the Occupational Safety and Health Center (OSHC) when the need arises, although other qualified laboratories may also be tapped in the absence of adequate facilities in the OSHC.
- e) To identify necessary actions for the abatement of exposure to hazards or enforcement of OSH Standards resulting from assessments and give recommendations to establishments based on WEA findings.
- f) To perform WEA activities periodically as may be necessary as required by the Standards particularly in cases where an establishment is unable to perform or secure the services of qualified personnel and institutions to conduct such activities.

Section 6. Effectivity

This issuance shall serve as policy and procedural guidelines in the administration and enforcement of the provisions of Rule 1070 of the Standards and shall be for the information and guidance of all concerned.

19 June 2000.

		BIENVENIDO E. LAGUESMA		
		Secretary		

GUIDELINES IN ACCOMPLISHING SUPPLEMENTAL FORM IF NO.5 (WORKPLACE ENVIRONMENT ASSESSMENT DATA)

The following guidelines are issued to facilitate uniformity in accomplishing IF No. 5 to minimize confusion and to facilitate evaluation of data by the Bureau of Working Conditions.

1. Name of Establishment-complete business name of the establishment where WEA was conducted
2. Address-the number, name of street, exact place of business of the establishment or its complete mailing address
3. Nature of Business-general classification of the business or unit as to its type of business, products produced or services rendered

Note:

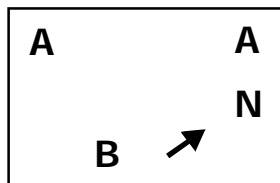
- Except for entries such as weather condition, natural light sources, instrument used and model which are all self explanatory, other entries in the form will be clarified.
- All entries in the form should be accomplished as completely as possible.

WORKPLACE ENVIRONMENT ASSESSMENT DATA

I. Area Sampling

1. Sketch of Worksite and location of measuring points

Ex.:



A-Production Area
B-Punch Press Area
C-Painting Area

2. Measuring Point

Work Process

Ex.:

A1 } This denotes three (3)
A2 } reading made in the
A3 } Production Area

❖ This refers to the various locations in the workplace where measurements were made relative to each other. The different areas should be shown in the box provided and each area be designated by a letter followed by a legend indicating the specific areas in question. If possible, please indicate compass direction (e. magnetic north).

❖ Location of measuring points refer to the specific points in a particular area where the measurements were conducted. Ideally measuring points should be made in an area where workers are closest to the source of hazards.

❖ Refers to a point in a particular work process or operation where a measurement was made. Several readings may be made in a particular operation. Each of the readings should be numbered accordingly.

A		B	C
A1	A2	B1	C3
A5			C2
A3	A4	B2	C1

3. Sampling Time

Ex.:

A1 - 10:05 am - 10:07 am
A2 - 2:03 pm - 2:05 pm
A3 - 3:01 pm - 3:02 pm

4. Illumination Level
Noise Level
Airflow

Ex.: 350 lux
110 dBA
40.1 m/min

5. Number of Workers

6. Remarks

Ex.:

- Isolated or enclosed work area for noisy machine
- Worker exposed to only 4 hrs/day
- Work area has open spaces; no walls surrounding workplace
- Work area with large windows
- Area is very dim; area very glaring
- Presence of strong odor

7. Recommendations

8. Inspection conducted by
Date of Inspection

❖ Refers to the actual time that sampling was conducted. The exact time and duration of measurement should be indicated.

❖ Refers to the readings and the corresponding values obtained using the different instruments.

❖ Refers to the number of workers directly exposed to a particular hazard in question.

❖ Refers to the observations/notes made during the conduct of measurement that may be peculiar to the work process or to the source of the hazard.

Note:

When using MSA flowlite in measuring levels of dust or chemicals the FLOWRATE used may be indicated in the REMARKS column

Ex. 2L/min; 3 L/min

❖ Indicate the appropriate measures that may be used/adopted to minimize if not eliminate the hazard in the workplace.

❖ Indicate name of Labor Inspector and date when WEA was conducted.

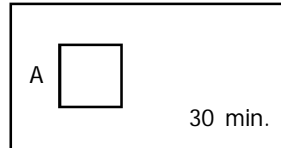
II. Personal Sampling

Data taken from personal sampling are entered on page 3 of the Supplemental Report Form (IF No. 5). Sampling may be taken when the worker is stationary or mobile. It is important that sampling be taken during one complete work cycle of the worker.

1. Sketch of Worksite and location of measuring points

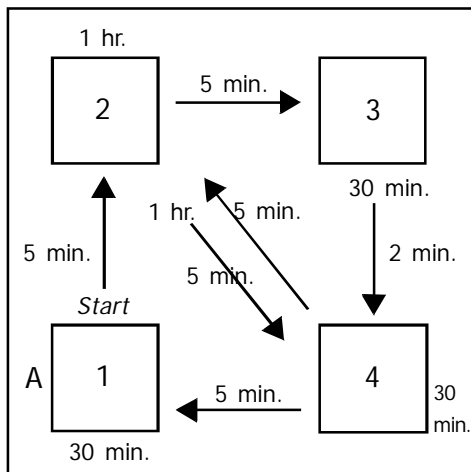
Ex.:

A. Stationary



- ❖ This is accomplished in the same manner as in page 1. However, the duration of one (1) complete work cycle should be indicated.

B. Mobile



- ❖ The example shows worker A having to go to 4 work stations in 1 complete work cycle which lasts 4 hours and a total travel time of 27 min.

2. Chemical Substance

- ❖ Refers to the name of the chemical or airborne contaminants (dust, metal fume, mists, etc.) that a worker is exposed to.

3. Measurement Location

- ❖ Refers to the area where a particular work process or operation is done and a complete work cycle is sampled.

4. Sampling Time

- ❖ Refers to the actual time that sampling was conducted including the time the worker transfers to another work station in case his job is mobile.

5. Results

- ❖ Refers to the values obtained from the different IH instruments.

6. Remarks

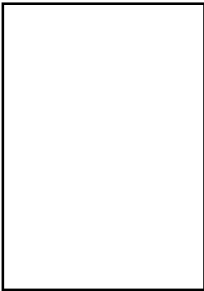
- ❖ Refers to notes/observations made during the conduct of measurement that may be peculiar to the work process or hazard present in the workplace.

SUPPLEMENTAL INSPECTION REPORT FORM (IF No.5)	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF LABOR AND EMPLOYMENT	REGIONAL OFFICE NO.	ADDRESS
INSTRUCTION. Accomplish this form in two (2) copies for each workplace visited. The original copy shall be submitted to the Bureau of Working Conditions together with the Inspection Report (IF No.3) and the second copy to be kept for the Regional Office File.			
NAME OF ESTABLISHMENT		NATURE OF BUSINESS	
ADDRESS			

WORKPLACE ENVIRONMENT ASSESSMENT DATA

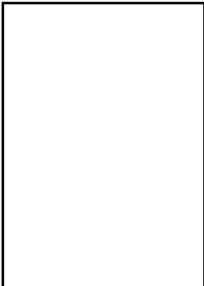
I. ILLUMINATION EVALUATION DATA:

Weather Condition _____ Instrument Used _____
 Natural Light Sources _____ Model _____

Sketch of Worksite and Location of Measuring Points Diagram 1 	Measuring Point- Work Process	Sampling Time HH:MM	Illumination Level	No. of Workers Exposed	REMARKS

II. NOISE EVALUATION DATA:

Instrument Used _____ Model _____
 Type of Noise () Continuous () Impact or Impulse
 Weather Condition _____

Diagram 2 	Measuring Point- Work Process	Sampling Time HH:MM	Noise Level (dBA)	No. of Workers Exposed	REMARKS

Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Intramuros, Manila

MEMORANDUM CIRCULAR NO. 02
Series of 2000

For: All Regional Directors

SUBJECT: Guidelines in the Application of the Workplace Component of Republic Act No. 8504 otherwise known as the "Philippine AIDS Prevention and Control Act of 1998" and its Implementing Rules and Regulations.

In the interest of protecting the welfare of workers from the health, psychosocial and economic implications of HIV and AIDS problem and to institutionalize the HIV and AIDS Workplace Program as part of the regular inspection activity, the following guidelines are hereby prescribed:

Section 1. Scope

These guidelines shall be observed by the Department of Labor and Employment (DOLE) labor inspectorate in monitoring, assessing and enforcing compliance to Republic Act No. 8504, otherwise known as the "Philippine AIDS Prevention and Control Act of 1998", and its Implementing Rules and Regulations.

Section 2. Objectives

In order to implement the above mandate, the following objectives are given:

- a) To generate information/data on the number of establishments which have a Workplace HIV and AIDS Education Program.
- b) To develop a monitoring and assessment component in the implementation of the law in the form of inspection monitoring reports.
- c) To recommend the conduct of HIV and AIDS education in the companies for program efficiency and effectiveness.

Section 3. Definition of Terms

The following terms as used in these guidelines and in the field shall have the meanings as stated:

1. **Acquired Immune Deficiency Syndrome (AIDS)** - a condition characterized by a combination of signs and symptoms caused by HIV contracted from another which attacks and weakens the body's immune system making the afflicted individual susceptible to other life-threatening infections.
2. **Human Immunodeficiency Virus (HIV)** - the virus which causes AIDS.
3. **HIV and AIDS Education** - the provision of information on the causes, prevention and consequences of HIV and AIDS and activities designed to assist individuals to develop the confidence and skills needed to avoid HIV and AIDS transmission and to develop more positive attitude toward people living with HIV and AIDS (PLWHA).
4. **Workplaces** - refer to the offices, premises or worksites where a worker is temporarily or permanently assigned. Where there is no fixed or definite workplace, the term shall include the place where the worker actually performs regular work or where he regularly reports to render service or to take an assignment.

Section 4. Responsibility of the Department of Labor and Employment (DOLE)

Pursuant to Section 15 of the Implementing Rules and Regulations of R.A. No. 8504, monitoring and assessment of workplace HIV and AIDS education in the private sector shall be the responsibility of DOLE in collaboration with the Department of Health (DOH).

- a) The DOLE agencies involved shall be the Inter-Agency Committee on STD/HIV and AIDS as may be constituted by the Secretary of Labor as well as the DOLE Regional Offices.
- b) The Bureau of Working Conditions (BWC), through the labor inspectorate of the DOLE Regional Offices, shall be responsible for monitoring and evaluating compliance based on the findings of labor inspectors.

Section 5. Functions of the Regional Offices

The DOLE Regional Offices shall be tasked with the following functions:

- a) Enforce compliance with the requirements for HIV and AIDS Education Program to be instituted by all establishments;
- b) Shall serve as the focal centers in their areas of jurisdiction in providing basic information on the salient features of R.A. No. 8504 as it applies to workplaces.

Section 6. Duties of Labor Inspectors

Labor inspectors who have undergone the Appreciation Course on HIV and AIDS and R.A. No. 8504 or the Peer Educator and Counselor Training Course on HIV and AIDS shall be tasked with the following responsibilities:

- a) To include in the conduct of inspection compliance of employers to the requirements of providing HIV and AIDS Education in the workplace.
- b) To document the findings in IF-6 (attached as Annexure "A") which shall be correspondingly submitted together with Inspection Form No. 3 to BWC.
- c) To act as resource persons whenever necessary in the dissemination of HIV and AIDS program in the workplace.

Section 7. Effectivity

This issuance shall serve as policy and procedural guidelines in the application of the workplace component of R.A. 8504 and its Implementing Rules and Regulations and shall be for the information and guidance of all concerned.

19 June 2000.

		BIENVENIDO E. LAGUESMA		
		Secretary		

<i>Supplemental Inspection Report Form (IF No. 6)</i>	<i>Republic of the Philippines Department of Labor and Employment</i>	<i>Regional Office No.</i>	<i>Address</i>
<p>Instructions: <i>Accomplish this form in two (2) copies for each workplace visited. The original copy shall be submitted to the Bureau of Working Conditions together with the Inspection Form (IF No. 3) and the second copy shall be kept in the Regional Office file.</i></p>			
<i>Name of Establishment:</i>		<i>Nature of Business:</i>	
<p>HIV and AIDS Program in the Workplace</p> <p><i>Please check the appropriate box:</i></p> <p>1. <i>HIV and AIDS Education in the Workplace</i></p> <p><input type="checkbox"/> <i>No to HIV and AIDS education and information program for the workers</i></p> <p><input type="checkbox"/> <i>No IEC materials, brochures, booklets on HIV and AIDS</i></p> <p>2. <i>Testing, Screening and Counseling</i></p> <p><input type="checkbox"/> <i>No written, informed consent obtained prior to HIV testing of worker</i></p> <p><input type="checkbox"/> <i>HIV testing imposed as a precondition for employment</i></p> <p><input type="checkbox"/> <i>HIV testing imposed as a precondition for medical service or any kind of service</i></p> <p>3. <i>Medical Confidentiality</i></p> <p><input type="checkbox"/> <i>No protocols or policies adopted by the company to safeguard confidentiality of records who underwent or was diagnosed to have HIV</i></p> <p>4. <i>Discriminatory Acts and Policies</i></p> <p><input type="checkbox"/> <i>Termination from work on the basis of actual, perceived or suspected HIV status of worker</i></p> <p><input type="checkbox"/> <i>Acts of discrimination against an individual seeking employment due to suspected or perceived HIV status</i></p> <p><input type="checkbox"/> <i>Acts of discrimination on the promotion or assignment of worker on the basis of perceived or suspected HIV status</i></p> <p>5. <i>Other Remarks:</i></p>			

DEPARTMENT ORDER NO. 16-01
Series of 2001

Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Intramuros, Manila

In the interest of the service and pursuant to the provisions of Article 162, Book IV of the Labor Code of the Philippines, the following amendments to Rule 1030 of the Occupational Safety and Health Standards are hereby promulgated:

Rule 1030 TRAINING AND ACCREDITATION OF PERSONNEL
ON OCCUPATIONAL SAFETY AND HEALTH

Rule 1031: General Provisions:

- 1) The Bureau, either directly or through accredited organizations or the OSHC or other institutions authorized by law shall conduct continuing programs to increase the supply and competence of personnel qualified to carry out the provisions of these Standards.
- 2) The Bureau shall prescribe the required training programs which shall, in consultation with the OSHC or other institutions authorized by law and other technical societies, contain provisions requiring the incorporation into the training programs of the latest trends, practices and technology in occupational safety and health.

Rule 1032: Definitions:

- 1) Safety Officer
refers to any employee/worker trained and tasked to implement occupational safety and health programs in the workplace in accordance with the provisions of the Standards and shall be synonymous to the term "Safety Man" as used in these Standards.
- 2) Occupational Safety and Health Personnel
refers to Physician, Nurse, Dentist, Chemist, Engineers, Safety Officer, First-Aider and other persons engaged by the employer to provide occupational safety and health services as required by the Standards.
- 3) Practitioner in Occupational Safety and Health
refers to any qualified person as assessed and duly-accredited by the Bureau to practice and render occupational safety and health services in a defined and specific scope or core competency.
- 4) Occupational Safety and Health Consultant
refers to any practitioner in occupational safety and health or group of persons or organizations duly-accredited by the Bureau to practice, perform and/or render consultative and/or advisory services on occupational safety and health in at least two (2) fields of specialization as enumerated in Annex "A".
- 5) Trainer
refers to a person who facilitates learning situation in one or more topics in an occupational safety and health training.
- 6) Training Organization
refers to an institution accredited or authorized by law to conduct training in a particular field or a combination of fields on occupational safety and health.

7) Hazardous Establishment

refers to a establishment where work operations or practices performed by a worker in the establishment or workplace in conjunction with or as an incident to such operations or practices and which expose the employee or worker to hazards likely to cause disabling injury, illness, death or physical or psychological harm.

8) Highly Hazardous Establishment

is one where potential hazard within the company may effect the safety and/or health of workers not only within but also persons outside the premises of the workplace. The following are workplaces commonly associated with potentially high hazardous activities:

- a) Petrochemical works and refineries;
- b) Chemical works and chemical production plants;
- c) LPG storage and materials;
- d) Stores and distribution center for toxic/hazardous chemicals;
- e) Large fertilizer stores;
- f) Explosives factories;
- g) Works in which chlorine is used in bulk;
- h) Activities closely similar to the activities enumerated above; and
- i) Activities as determined by the Bureau in accordance with existing issuances related to classification of establishments

Rule 1033: Training and Personnel Complement:

The minimum qualifications, duties and number of required safety and health officers shall be as follows:

- 1) All safety officers must complete the Bureau-prescribed training course prior to their appointment as in their respective places of employment.
- 2) All full-time safety officers must meet the requirement of duly-accredited Safety Practitioners or Safety Consultants by the Bureau.
- 3) Not less than the following number of supervisors or technical personnel shall take the required trainings and shall be appointed as a safety officer on a full-time or part-time basis, depending on the number of workers employed and the hazardous or non-hazardous nature of the workplace pursuant to Rule 1013 of these Standards.

a) For hazardous workplaces:

Number of Workers	Minimum Number of Safety Officers	
	Hazardous	Highly Hazardous
1-50	One (1) part-time	One (1) full-time
51-200	One (1) full-time	One full-time & one part-time
201-250	One full-time & One part-time	Two (2) full-time
251-500	Two (2) full-time	Two full-time & One part-time
Every additional 500 or fraction thereof	One (1) additional full-time	
Every additional 250 or fraction thereof		One (1) additional full-time

b) For non-hazardous workplaces:

Number of Workers	Minimum Number of Safety Officers
1-250	One (1) part-time
251-500	Two (2) part-time
501-750	One (1) full-time
751-1000	Two (2) full-time
Every additional 500 or fraction thereof	One (1) additional full-time

- 4) Duties of the Safety Officer: The duties of the safety officer are specified under Rule 1040 of these Standards.
A part-time safety officer shall be required to perform the duties of safety officer at least six (6) hours per week.
- 5) The employment of a full-time safety officer may not be required if the employer enters into a written contract with a qualified consultant or consulting organization whose duties and responsibilities shall be the duties of a safety practitioner as stated in these Rule. The employment of a consultant, however, will not excuse the employer from the required training of his supervisors or technical personnel.

Rule 1034: Accreditation:

The Secretary, upon the recommendation of the Bureau Director, may accredit any qualified safety and health consulting and training organization and, through the Bureau, may issue accreditation to any qualified safety and health personnel, individual to carry out the provisions of these Standards.

1034.01: Requirements for Accreditation of a Practitioner in Occupational Safety and Health

Any application for accreditation shall satisfy the enumerated requirements:

A. Practitioner in Occupational Safety and Health

1. The individual must have completed the 40-hour Basic Occupational Safety and Health Training Course as prescribed by the Bureau;
2. Must have at least three (3) years of relevant experience in occupational safety and health;
3. Must possess the minimum qualifications stated under Rule 1964.01 nos. 1 to 5, whichever may be applicable; and
4. Must be duly-licensed to practice his/her profession in the Philippines;
5. If the applicant is a graduate of any 4 or 5-year college course without a license, he/she must have at least four (4) years relevant experience in any of the sub-components in a field of specialization as enumerated in Annex "A"; and
6. If the applicant is a college undergraduate he/she must have at least ten (10) years relevant experience in occupational safety and health.

B. Consultant in Occupational Safety and Health

1. The applicant must be an accredited practitioner for at least five (5) years with experience in at least two (2) fields of specialization enumerated in Annex "A".
2. Must have experience in policy formulation and development, monitoring and evaluation, and implementation of occupational safety and health management systems.
3. Must have completed the 80-hour Advanced Occupational Safety and Training Course as prescribed by the Bureau; and
4. Must have earned an additional 480 hours of training/seminar or related learning processes in various fields of occupational safety and health from accredited organizations or institutions authorized by law.

C. Occupational Safety and Health Consulting Organization

1. The applicant must be composed of two or more accredited occupational safety and health consultants.
2. Must submit a certified true copy of business registration, licenses, and permits to operate.
3. Must submit the organization's profile.

D. Occupational Safety and Health Training Organization

1. A Bureau-prescribed and/or approved course of study shall be used or followed by accredited organizations. Any deviation from the prescribed training must be with the previous approval of the Bureau.
2. The organization must provide adequate training facilities that include safety and health-related equipment, manuals and modules, library, training rooms, audio-visual and other training resources and paraphernalia.
3. Trainers must be composed of persons with the following qualifications:
 - a) Must have completed the 40-hour basic occupational safety and health training course;
 - b) Must have completed at least 24 hours of a Training of Trainers course; and
 - c) Must have at least three (3) years of experience in the design, conduct and evaluation of any OSH training program
4. The applicant must submit certified true copies of business registrations, licenses, and permits to operate.
5. Submission of the organization's profile.

1034.02: Issuance and validity of certificate of accreditation and identification card

After evaluation and verification by the Bureau, a certificate of accreditation valid for three (3) years and an identification card shall be issued to any applicant who has satisfactorily met all the requirements specified in this rule, and upon payment of the prescribed fee as provided for under Rule 1974 of the Standards.

1034.03: Duties and responsibilities of Practitioners in Occupational Safety and Health

A. Practitioners in Occupational Safety and Health

1. To develop, implement and promote occupational safety and health programs in the workplace.
2. To advise and assist the employer in complying with the provisions of the Standards, especially in the submission of the reporting requirements.
3. To perform at least a quarterly appraisal/assessment of the implementation of occupational safety and health programs in the workplace
4. To prepare an annual report of safety and health programs of establishments.
5. To be present during the scheduled safety inspections by authorized government agents and as requested during regular health and safety committee meetings.
6. For Occupational Health Personnel, the duties shall be in accordance with Rule 1960.

B. Occupational Safety and Health Consultants/Consulting Organizations

1. To assist, advise or guide the employer in complying with the provisions of these Standards, or including the development of health and safety programs.
2. To make at least a quarterly appraisal of programs and safety performance of the establishment, including the activities of the health and safety committee.
3. In the absence of a Safety Officer, to be present during scheduled safety inspections by authorized government agents and as requested during regular health and safety committee meetings and to render at least six (6) hours of service a week in the establishment in the performance of these activities.
4. To advise and assist the employer in complying with the reporting requirements of the Standards.

C. Duties and Responsibilities of OSH Training Organizations

1. To develop, monitor and evaluate their training programs on occupational safety and health.
2. To conduct continuing OSH programs to increase the number of competent and qualified personnel/individuals to implement the provisions of the Standards.
3. To submit to the Bureau the following requirements:
 - a) Yearly calendar of training activities;
 - b) List of trained individuals, training content and names and topics of speakers/lecturers, five (5) days after the conduct of every training
 - c) Program on updating trainer's knowledge and skills.

1034.04: Renewal of Accreditation

Accreditation for practitioners and consultants shall be renewed every three (3) years upon compliance of the following:

1. Submission of updated bio-data with recent passport size and 1x1 pictures.
2. Presentation of original and submission of certified true copies of additional and relevant occupational safety and health training certificates.
3. Submission of annual performance report as certified by the employer/s/client/s.
4. Payment of renewal/annual fee.

Accreditation for both training and consulting organizations shall be renewed every three (3) years upon compliance of the following:

1. Submission of an updated organization profile.
2. Submission of calendar of trainings or services and other related OSH activities.
3. Submission of an annual accomplishment report on trainings conducted (Safety Training Organization) and consultancy services provided (Consulting Organization).
4. Submission of an updated resume of trainers (for Safety Training Organization) and consultants (for Consulting Organizations).
5. Submission of photocopy of certificate of accreditation.
6. Submission of monitoring and evaluation reports, and
7. Payment of renewal/annual fee.

1034.05: Suspension/Cancellation of Accreditation

Accreditation of OSH practitioner/consultant/consulting/training organization may be suspended or cancelled by the Secretary after due process and upon the recommendation of the Director for any of the following reasons:

Suspension:

1. Inactive as Occupational Safety and Health practitioner/consultant/training/consulting organization for three (3) consecutive years.
2. Failure to renew accreditation with the Bureau on or before the anniversary date of the original accreditation.
3. Non-compliance with the provisions or other requirements of this rule.

Cancellation:

1. Convicted for criminal offense involving moral turpitude.
2. Violation of professional ethics.
3. Two consecutive suspensions.

Reactivation:

An appeal for reactivation of suspended accreditation shall be filed with the Bureau for consideration.

1035: Audit System:

A regular audit shall be done by the Bureau to determine compliance with the Provisions of Rule 1034.

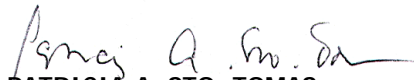
1036: Prohibition in the Practice of Occupational Safety and Health

1. No person or organization shall be allowed, hired or otherwise employed as a practitioner/ consultant in the practice of occupational safety and health unless the requirements of this rule are complied with.
2. Foreign nationals may be issued accreditation upon compliance with the provisions of this rule and subject to the requirements of existing Philippine Laws and Regulations.

All policy issuances, rules and regulations or part/s thereof inconsistent with any provision of this Order is hereby repealed, modified, superseded or amended accordingly.

The abovementioned amendments shall take effect fifteen (15) days after announcement of their adoption in a newspaper of general circulation.

Manila, Philippines, on the 18th day of December 2001.


PATRICIA A. STO. TOMAS
Secretary

RULE 1030: ANNEX "A"

MAJOR FIELDS OF SPECIALIZATION OF PRACTITIONERS AND CONSULTANTS ON OCCUPATIONAL SAFETY AND HEALTH:

A. Occupational Safety and Health Practitioners

1. Occupational Health Practitioner, such as:
 - Occupational Health Physician
 - Occupational Health Nurse
 - Dentist
2. Occupational Hygiene Practitioner
3. Occupational Safety Practitioner in the following industry group:
 - Agriculture
 - Fishing
 - Mining and Quarrying
 - Manufacturing (under the following divisions):
 - a. Food Products and Beverages
 - b. Tobacco Products
 - c. Textiles
 - d. Wearing Apparel
 - e. Tanning and Dressing of Leather: Manufacture of Luggage, Handbags and Footwear
 - f. Wood, Wood Products and Cork, Except Furniture: Manufacture of Articles of Bamboo Cane, Rattan and the like: Manufacture of Plaiting Materials
 - g. Paper and Paper Products
 - h. Publishing, Printing and Reproduction of Recorded Media
 - i. Coke, Refined Petroleum and Other Fuel Products
 - j. Chemicals and Chemical Products
 - k. Rubber and Plastic Products
 - l. Other Non-Metallic Mineral Products
 - m. Basic Metals
 - n. Fabricated Metal Products, except Machinery and Equipment
 - o. Machinery and Equipment
 - p. Office, Accounting and Computing Machinery
 - q. Electrical Machinery and Apparatus
 - r. Radio, Television and Communication Equipment and Apparatus
 - s. Medical, Precision and Optical Instruments, Watches and Clocks
 - t. Motor Vehicles, Trailers and Semi-Trailers
 - u. Other Transport Equipment
 - v. Repair of Furniture
 - w. Recycling
 - x. Manufacturing

- Electricity, Gas and Water Supply
- Construction
- Wholesale and retail trade: repair of motor vehicles, motorcycles and personal and household goods
- Hotels and restaurants
- Transport, storage and communication in the following division:
 - a. Land transport: Transport Via Pipelines
 - b. Water Transport
 - c. Air Transport
 - d. Supporting and Auxiliary Transport Activities: Activities of Travel Agencies
 - e. Post and Communications
- Financial Intermediation
- Real Estate, Renting and Business Activities
- Public Administration and Defense: Compulsory Social Security
- Education

B. Occupational Safety and Health Consultants

1. Occupational Health Consultant-
Specific area of specialization/s:
 - Occupational epidemiology and bio-statistics
 - Occupational medicine
 - Worker's rehabilitation
 - Toxicology and risk assessment
 - Ergonomics
 - Women's health and reproductive hazards
 - Maritime health
 - Health of working children and other vulnerable sectors
2. Occupational Hygiene Consultant-
Specific area of specialization/s:
 - Analytical chemistry
 - Industrial ventilation
 - Work exposure assessment
 - Work environment control/workplace improvement
3. Occupational Safety Consultant-
Specific area of specialization/s:
 - Fire prevention and control
 - Machine safety
 - Electrical safety
 - Materials handling and storage
 - Construction safety
 - Accident/damage analysis
 - Safety programming
 - Safety inspection
 - Accident investigation
 - Safety audit
 - Safety program evaluation

Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Intramuros, Manila

DEPARTMENT ORDER NO. 57-04
(Series of 2004)

GUIDELINES ON THE EFFECTIVE IMPLEMENTATION OF
LABOR STANDARDS ENFORCEMENT

Pursuant to the Visitorial and Enforcement Powers of the Secretary of Labor and Employment, as provided for under Articles 128 and 129 of the Labor Code of the Philippines, as amended and Administrative Order 296, series of 2002, aimed at ensuring the effective implementation of the Labor Standards Enforcement Framework in order to build a culture of voluntary compliance with labor standards by all establishments and workplaces and expand the reach of the Department of Labor and Employment through partnership with labor and employers' organization as well as with other government agencies and professional organizations that also have a stake on the welfare and protection of our workers, the following guidelines are hereby issued:

Section 1. The Labor Standards Enforcement Framework shall ensure compliance with labor standards through the following:

a. Self-assessment. This voluntary mode shall be encouraged in establishments with at least 200 workers. It shall also apply to unionized establishments with Certified Collective Bargaining Agreement regardless of the number of workers. Employers will be provided with a Checklist for this purpose.

b. Inspection. This approach shall be undertaken in workplaces with 10 to 199 workers and effect restitutions/corrections if there are violations.

c. Advisory services. This approach shall be undertaken in workplaces with less than 10 workers and those registered as Barangay Micro-Business Enterprises (BMBEs)

Section 2. Strategy for Implementation. To implement the above approaches, the following shall be undertaken:

a. Advocacy and Education Campaign. Non-compliance with labor standards usually stem from inadequate understanding of the legal obligations by employers. The conduct of education and training services is seen as a means of ensuring voluntary labor standards compliance.

b. For Self-Assessment.

b.1. *Distribution of Checklist on Compliance with Labor Standards.* All Regional Offices shall distribute the Checklist to covered establishments in their respective areas of jurisdiction within the first quarter of every year.

b.2. *Conduct of Self-Assessment.* Assessment shall be undertaken by the representatives of the employer and workers at least once a year utilizing the Checklist. The Labor Management Committee, Health and Safety Committee or other similar committees shall undertake the assessment within one (1) month from the receipt of the Checklist.

- b.3. *Submission of Checklist.* The accomplished Checklist shall be submitted to the Regional Office not later than five (5) days after the assessment.
- b.4. *Spot Check.* This shall be conducted by the Regional Evaluation Team to all covered establishments or workplaces.

c. *Conduct of Inspection.*

The conduct of inspection in all workplaces with 10-199 workers shall be undertaken by labor inspectors based on the following inspection priorities:

- c.1. Existence of complaints, imminent danger or imminent occurrence of accidents and illnesses/injuries;
- c.2. Hazardous workplaces;
- c.3. Construction sites; and
- c.4. Establishments employing women/child workers.

d. *Conduct of Training and Advisory Services*

The Regional Offices of the Department shall conduct training and advisory visits (TAVs) to assist small and micro establishments map out an improvement program geared at increasing productivity to facilitate their eventual compliance with labor standards. TAVs shall be conducted by trained DOLE personnel.

The training to be undertaken in coordination with other government and non-government agencies shall include an orientation on practical work methods and low-cost workplace improvement strategies, which contribute to productivity and enterprise development.

e. *Technical Safety inspection by Local Government Units (LGUs).*

The Department of Labor and Employment, upon the recommendation of the Regional Offices, shall delegate the conduct of technical safety inspection pursuant to Article 165 of the Labor Code of the Philippines, as amended, Rule 1980 of the Occupational Safety and Health Standards, Administrative Order No. 155, series of 2003 and the Memorandum of Agreement between the Department and appropriate LGUs.

Section 3. *Monitoring and Evaluation.* An Evaluation Team shall be organized in the Regional Offices for this purpose to undertake the following:

- a. Determine authenticity of the documents submitted;
- b. Determine compliance with labor standards and recommend spot checking, if necessary;
- c. Recommend corrections or restitutions in cases of violations.
- d. Monitor establishments covered by training and assistance visit (TAV) based on their commitments to comply with labor standards;
- e. Evaluate LGU's capability and performance to conduct technical safety inspection and recommend appropriate action.

Section 4. Disposition of Labor Standards Violation/Labor Standards Cases

Any violation of labor standards unearthed during the conduct of inspection, Self-Assessment or any case arising there from shall be disposed of in accordance with Articles 128, 129, 162 and 165 of the Labor Code of the Philippines, as amended and its implementing rules and regulations.

Section 5. Miscellaneous Provision

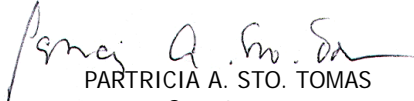
- a. The Bureau of Working Conditions shall develop and issue the Manual on Labor Standards including the appropriate Checklist and the Manual on the Conduct of Assistance/Advisory Services which shall form part of this Order and to provide the training and capability building to the personnel who will implement the approaches in this Order.
- b. The Bureau of Working Conditions shall further revise and develop a Labor Inspection Manual in the conduct of inspection as defined herein and a Manual on Technical Safety Inspection to guide personnel in the Local Government Units.
- c. The Bureau of Working Conditions shall take charge of the monitoring and evaluation of the implementation and enforcement of this Order and to submit a quarterly report to the Secretary of Labor and Employment.

Section 6. Repealing Clause

All Rules, Orders, Memoranda and other issuances inconsistent with the provisions of this Order are hereby repealed or modified accordingly.

Section 7. Effectivity

This Department Order shall take effect within fifteen (15) days upon its publication in two (2) newspapers of general circulation.


PARTRICIA A. STO. TOMAS
Secretary

07 January 2004

DEPARTMENT ORDER NO. 38-03

Series of 2002

**Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Intramuros, Manila**

CREATING AN INTER-AGENCY COMMITTEE ON STD/ HIV AND AIDS IN THE WORKPLACE

Pursuant to its mandate to safeguard the health and welfare of the Filipino worker, the Department of Labor and Employment, in February 1996, launched a Project to reduce the incidence and transmission of STD/HIV and AIDS at the workplace. This was undertaken in collaboration with the Department of Health and with the Philippine National AIDS Council with support from the European Union.

In August 1996, an Inter-Agency Committee (IAC) was formed, through Administrative Order NO. 236, to advise the Project with the Occupational Safety and Health Center (OSHC) assigned as overall coordinator and implementor. The Committee was composed of agencies under or attached to the Department of Labor and Employment.

Through the IAC, a comprehensive workplace policy on STD/HIV and AIDS prevention at the workplace was formulated, and became the basis of the workplace preventive efforts of the RA 8504 or the National AIDS Law. Signed in 1998, the Law prescribes that all workers be given core information on STD/HIV and AIDS; it prohibits discriminatory behavior towards suspected or actual HIV positive persons.

The HIV and AIDS epidemic has been affecting the young adult population often through unprotected sexual transmission. To strengthen the workplace response in implementing the provisions of RA 8504 and in strengthening the prevention and action against HIV and AIDS in the Workplace, the membership of the Inter-Agency Committee on STD/HIV and AIDS in the Workplace and the role of the Committee are hereby expanded.

The Committee shall be composed of the following Members:

1. DOLE Agencies - Office of the Assistant Secretary for Policy and International Affairs, Office of the Assistant Secretary for Regional Operations, Bureau of Labor Relations (BLR), Bureau of Local Employment (BLE), Bureau of Rural Workers (BRW), Bureau of Women and Young Workers (BWYW), Bureau of Working Conditions (BWC), Finance and Management Service (FMS), International Labor Affairs Service (ILAS), Employees' Compensation Commission (ECC), Institute for Labor Studies (ILS), Maritime Training Council (MTC), National Maritime Polytechnic (NMP), Occupational Safety and Health Center (OSHC), Overseas Workers Welfare Administration (OWWA), Philippine Overseas Employment Administration (POEA), Technical Education and Skills Development Authority (TESDA).
2. Other Government Agencies - the National AIDS/STD Prevention and Control Program of the Department of Health (DOH-NASPCP), the Civil Service Commission (CSC), the Armed Forces of the Philippines (AFP) and the Philippine National Police (PNP).

3. Employers and Management Groups - Employers Confederation of the Philippines (ECOP), Personnel Management Association of the Philippines (PMAP)
4. Labor Organizations - Trade Union Congress of the Philippines (TUCP), Federation of Free Workers (FFW)
5. Professional Organizations - Philippine College of Occupational Medicine (PCOM), Occupational Health Nurses Association of the Philippines (OHNAP).
6. Non-Government Organizations active in STD/HIV and AIDS work-Philippine HIV and AIDS NGO Support Group (PHANSuP), HIV and AIDS Network Philippines.
7. NGOs representing those persons with HIV and AIDS - Pinoy Plus Association, Inc., Positive Action Foundation of the Phils., Inc. (PAFPI).
8. Other Agencies that my collaborate and support the Program The Inter-Agency Committee shall be tasked with the following:
 - a. To serve as an advisory body in the formulation of a strategic plan for the prevention of STD/HIV and AIDS at the workplace.
 - b. To monitor the implementation of workplace education and observance of non-discriminatory practices based on actual or perceived HIV status of workers in all workplaces.
 - c. To act as consultative and advisory body to the Department of Labor and Employment on policies and programs on the prevention of STD/HIV and AIDS in the workplace.
 - d. To act as network for fund sourcing for HIV and AIDS prevention programs, in particular, for the Global Fund on AIDS.

Per Implementing Rules and Regulations of Republic Act 8504, the Occupational Safety and Health Center (OSHC) shall act as Chair of the IAC.

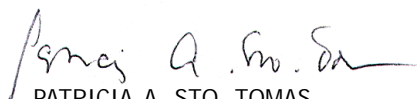
IAC meetings are to be held at least quarterly.

A Quarterly report or when necessary should be submitted to the Secretary thru the Undersecretary for Workers Welfare and Protection Cluster.

This order takes effect immediately

For strict compliance.

07 February 2003


PATRICIA A. STO. TOMAS
Secretary

DEPARTMENT ORDER NO. 44-03

Series of 2003

**Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Manila**

**COMMEMORATION OF APRIL 28 AS WORLD DAY FOR SAFETY AND
HEALTH AT WORK**

To safeguard the health and welfare of the Filipino worker, the Department of Labor and Employment enjoins all offices under its jurisdiction, workers' organizations, trade unions, employer's organizations, establishments, safety and health practitioners and professional organizations to commemorate April 28 every year as the **"World Day for Safety and Health at Work"**, pursuant to the mandate of the International Labor Organization (ILO).

The observance of this event has two main objectives: 1) to promote, enhance, and instill national awareness and appreciation on the importance of occupational safety and health; and 2) to elicit the cooperation and support of the workers, employers professional groups and especially the general public in upgrading the quality of life in the workplace.

The ILO World Day for Safety and Health is bringing tripartite strength to the International Commemoration Day for the Dead and Injured Workers organized worldwide by the International Confederation of Free Trade Unions (ICFTU) and its affiliates since 1996. The World Day for Safety and Health at Work is intended to focus international attention on the magnitude of the problem and how promoting and creating a safety and health culture can help reduce the number of work-related deaths each year. A wide range of national and international activities conducted by trade unions all over the world reflected the need to honor the dead and injured workers to bring a message of hope for life.

According to ILO estimates, 250 million work accidents occur annually while 160 million are estimated to suffer from work-related illnesses. Furthermore, about 1.2 million die due to such accidents and illnesses resulting to a 4% economic loss in the total world GNP. Globalization is also affecting in many ways the safety and health of the workplace. The key, therefore, towards preventing occupational deaths, diseases, injuries and other globalization effects is a strong safety and health culture in all workplaces. In the local front, shared data from the DOLE and the National Statistics Office indicate that occupational injuries and illnesses remain a major problem. This could be prevented if tripartite strength is brought to its fullest.

As a strong reminder to this significant event, all concerned are enjoined to carry out the following actions:

✍ Hang a streamer with the slogan of either "Promoting a Safety and Health Culture in a Globalized World" or "Pagpapaunlad ng Kultura ng Kaligtasan at Kalusugan sa Isang Global na Pamayanan. Different themes will be provided for the succeeding years.

✍ Conduct tripartite advocacy campaign such as panel discussions, press conferences and the like on the prevention of accidents and illnesses, which will culminate in a national tripartite meeting every April 28 of each year, and sustain preventive programs.

All concerned are hereby urged to cooperate in ensuring the attainment of the objectives of this celebration.

(sgd.) **MANUEL G. IMSON**
Acting Secretary

DEPARTMENT ORDER NO. 53-03

Series of 2003

GUIDELINES FOR THE IMPLEMENTATION OF A DRUG-FREE WORKPLACE POLICIES AND PROGRAMS FOR THE PRIVATE SECTOR

In accordance with Article V of Republic Act No. 9165, otherwise known as the Comprehensive Dangerous Drugs Act of 2002, and its Implementing Rules and Regulations and in consultation with the Tripartite Task Force created under DOLE Department Order No. 37-03, s 2002 (Tripartite Task Force), the following guidelines are hereby issued to assist employers and employees in the formulation of company policies and programs to achieve a drug-free workplace.

A. COVERAGE

1. These guidelines shall apply to all establishments in the private sector, including their contractors and concessionaires.

B. FORMULATION OF DRUG-FREE WORKPLACE POLICIES AND PROGRAMS

1. It shall be mandatory for all private establishments employing ten (10) or more workers to formulate and implement drug abuse prevention and control programs in the workplace, including the formulation and adoption of company policies against dangerous drug use. Establishments with less than ten (10) workers are also encouraged to formulate and adopt drug-free policies and programs in the workplace.
2. The workplace policies and programs shall be prepared jointly by management and labor representatives and shall be made an integral part of the company's occupational safety and health and related workplace programs.
3. In organized establishments, the workplace policies and programs shall be included as part of the Collective Bargaining Agreements.
4. Assistance in the formulation and implementation of a Drug-Free Workplace Policies and Programs may be sought from the Tripartite Task Force (see Annex 1), through the Occupational Safety and Health Center. The Regional Offices of the DOLE shall serve as focal center in their respective areas of jurisdiction in providing information on RA No. 9165 and on the prevention and control of drug abuse in the workplace.

C. COMPONENTS OF A DRUG-FREE WORKPLACE POLICIES AND PROGRAMS

1. Workplace policies and programs on drug abuse prevention and control to be adopted by companies shall include, among others, the following components:

a) Advocacy, Education and Training

- i. Employers shall be responsible for increasing awareness and education of their officers and employees on the adverse effects of dangerous drugs as well as the monitoring of employees susceptible to drug abuse. Topics which may be included in the orientation-education program shall include, among others, the following:
 - Salient Features of RA 9165 (the Act) and its Implementing Rules and Regulation (IRR)
 - The Company policies and programs on drug-free workplace
 - Adverse effects of abuse and/or misuse of dangerous drugs on the person, workplace, family and the community
 - Preventive measures against drug abuse

- Steps to take when intervention is needed, as well as the services available for treatment and rehabilitation.
- ii. Employers are enjoined to display a billboard or streamer in conspicuous places in the workplace with standard message like **“THIS IS A DRUG-FREE WORKPLACE; LET’S KEEP IT THIS WAY!”** or such other messages of similar import.
- iii. Curricula developed by the Task Force shall be used as widely as possible for awareness raising and training. May be accessed through the OSHC website (www.oshc.dole.gov.ph)
- iv. Training on prevention, clinical assessment, and counseling of workers and other related activities shall be given to occupational safety and health personnel, the human resources manager and the employers and workers representatives. These trained personnel shall form part of an Assessment Team which shall address all aspects of drug abuse prevention, treatment and rehabilitation.
- v. In the absence of such capability, particularly in small establishments, DOLE shall, to the extent possible, provide relevant information on experts and services in their localities.
- vi. In the context of their Corporate Social Responsibility Programs, employers are encouraged to extend drug abuse prevention advocacy and training to their workers’ families and their respective communities.

b) Drug Testing Program for Officers and Employees

- i. Employers shall require their officials and employees to undergo a random drug test (as defined in Annex 2) in accordance with the company’s work rules and regulations for purposes of reducing the risk in the workplace. Strict confidentiality shall be observed with regard to screening and the screening results.
- ii. Drug testing for teaching and non-teaching staff in private schools shall be in accordance with the guidelines provided by DepED, CHED and TESDA.
- iii. Drug testing shall conform with the procedures as prescribed by the Department of Health (DOH) (www.doh.gov.ph). Only drug testing centers accredited by the DOH shall be utilized. A list of the accredited centers may be accessed through the OSHC website (www.oshc.dole.gov.ph).
- iv. Drug testing shall consist of both the screening test and the confirmatory test; the latter to be carried out should the screening test turn positive. The employee concerned must be informed of the test results whether positive or negative.
- v. Where the confirmatory test turns positive, the company’s Assessment Team shall evaluate the results and determine the level of care and administrative interventions that can be extended to the concerned employee.
- vi. A drug test is valid for one year; however, additional drug testing may be required for just cause as in any of the following cases:
 - After workplace-related accidents, including near miss;
 - Following treatment and rehabilitation to establish fitness for returning to work/resumption of job
 - In the light of clinical findings and/or upon recommendation of the assessment team.
- vii. All cost of drug testing shall be borne by the employer.

C) Treatment, Rehabilitation and Referral

- i. The drug prevention and control program shall include treatment, rehabilitation and referral procedure to be provided by the company staff or by an external provider. It shall also include a provision for employee assistance and counseling programs for emotionally-stressed employees.
- ii. The Assessment Team shall determine whether or not an officer or employee found positive for drugs would need referral for treatment and/or rehabilitation in a DOH accredited center.
- iii. This option is given only to officers and employees who are diagnosed with drug dependence for the first time, or who turn to the Assessment Team for assistance, or who would benefit from the treatment and rehabilitation.
- iv. Following rehabilitation, the Assessment Team, in consultation with the head of the rehabilitation center, shall evaluate the status of the drug dependent employee and recommend to the employer the resumption of the employee's job if he/she poses no serious danger to his/her co-employees and/or the workplace.
- v. Repeated drug use even after ample opportunity for treatment and rehabilitation shall be dealt with the corresponding penalties under the Act and its IRR.
- vi. An updated list of drug treatment and rehabilitation centers accredited by the DOH shall be disseminated through the OSHC website (www.oshc.dole.gov.ph)

d) Monitoring and Evaluation

- vii. The implementation of the drug-free workplace policies and programs shall be monitored and evaluated periodically by the employer to ensure that the goal of a drug-free workplace is met. The Health and Safety Committee or other similar Committee may be tasked for this purpose.

D. ROLES, RIGHTS AND RESPONSIBILITIES OF EMPLOYERS AND EMPLOYEES

1. The employer shall ensure that the workplace policies and programs on the prevention and control of dangerous drugs, including drug testing, shall be disseminated to all officers and employees. The employer shall obtain a written acknowledgement from the employees that the policy has been read and understood by them.
2. The employer shall maintain the confidentiality of all information relating to drug tests or to the identification of drug users in the workplace; exceptions may be made only where required by law, in case of overriding public health and safety concerns; or where such exceptions have been authorized in writing by the person concerned.
3. Labor unions, federations, workers organizations and associations are enjoined to take an active role in educating and training their members on drug abuse prevention and control. They shall, in cooperation with their respective private sector partners, develop and implement joint continuing programs and information campaigns, including the conduct of capability-building programs, peer counseling and values education with the end in view promoting a positive lifestyles and a drug-free workplace.
4. All officers and employees shall enjoy the right to due process, absence of which will render the referral procedure ineffective.

E. ENFORCEMENT

1. The Labor Inspectorate of the DOLE Regional Offices shall be responsible for monitoring compliance of establishments with the provisions of Article V of the Act and its IRR and this Department Order.
2. The dissemination of information on pertinent provisions of RA 9165 and the IRR shall be included in the advisory visits of the Labor Inspectorate.
3. The DOLE may, where deemed necessary and appropriate, delegate the monitoring of compliance of establishments with the provisions of Article V of the Act to Local Government Units thru a Memorandum of Agreement.

F. CONSEQUENCES OF POLICY VIOLATIONS

1. Any officer or employee who uses, possesses, distributes, sells or attempts to sell, tolerates, or transfers dangerous drugs or otherwise commits other unlawful acts as defined under Article II of RA 9165 and its Implementing Rules and Regulations shall be subject to the pertinent provisions of the said Act.
2. Any officer or employee found positive for use of dangerous drugs shall be dealt with administratively in accordance with the provisions of Article 282 of Book VI of the Labor Code and under RA 9165.

G. EFFECTIVITY

1. All concerned shall comply with all the provisions of this Department Order within six months from its publication in a newspaper of general circulation.

PATRICIA A. STO. TOMAS (sgd.)

Secretary

14 August 2003

Annex 1

DEPARTMENT ORDER NO. 37-03 Series of 2002

Republic of the Philippines DEPARTMENT OF LABOR AND EMPLOYMENT Manila

CREATING A TASK FORCE FOR A DRUG-FREE WORKPLACE

In response to the growing problem of alcohol and drug abuse, and in line with the provisions of the Comprehensive Dangerous Drugs Act of 2002, the Department of Labor and Employment (DOLE) has been designated to provide a workplace-based program for the prevention and control of alcohol and drug abuse in the labor force.

To implement the State policy promoting drug-free workplaces thru a tripartite approach, the Secretary of the DOLE shall issue a Department Order creating a Task Force consisting of government, labor and employers. This Task Force will formulate policies and strategies for the purpose of developing a National Action Agenda on drug abuse prevention in the workplace. Pursuant to the declared policy of the State, the DOLE Secretary shall require all private companies to adopt and implement a drug abuse prevention program in the workplace.

The Task Force led by the Department of Labor and Employment shall meet regularly in order to monitor the implementation of the relevant articles in the Comprehensive Dangerous Drugs Act of 2002 according to the guidelines defined in the IRR of Section 48 of the Law. It shall formulate the tripartite response to the law and provide strategies, directions and networking to implement a National Drug Abuse Prevention Program in the workplace to be adopted by private companies with 10 or more employees.

In this regard, DOLE Administrative Order No. 89 series of 1998 (Creating an Inter-Agency Committee on the Prevention of Drug - Abuse in the Workplace), is amended to include the following government and private offices:

Civil Service Commission (CSC)
Department of Health (DOH)
Dangerous Drugs Board (DDB)
Department of Social Welfare and Development (DSWD)
Department of Justice (DOJ)
Department of Interior and Local Government (DILG)
Maritime Industry Authority (MARINA)
Trade Union Congress of the Philippines (TUCP)
Labor Solidarity Movement
Employers' Confederation of the Philippines (ECOP)
Personnel Management Association of the Philippines (PMAP)

Non-Government Organizations:

Family Welfare Center (FWC)
Occupational Health Nurses of the Philippines (OHNAP)
Philippine College of Occupational Medicine (PCOM)
Safety Organization of the Philippines (SOPI)

Other DOLE Agencies:

Bureau of Working Conditions (BWC)
DOLE - Regional Offices
Technical Skills and Development Authority (TESDA)
Bureau of Local Employment (BLE)

The above agencies shall be added to the IAC members included under A.O. 89 namely:

Human Resource Development Service (HRDS)
Information and Publication Service (IPS)
Legal Service (LS)
Bureau of Labor Relations (BLR)
Bureau of Rural Workers (BRW)
Bureau of Women and Young Workers (BWYW)
DOLE - National Capital Region (DOLE-NCR)
Employees' Compensation Commission (ECC)
National Maritime Polytechnic (NMP)
Maritime Training Council (MTC)
Institute of Labor Studies (ILS)
Occupational Safety and Health Center (OSHC)
Overseas Workers Welfare Administration (OWWA)
Philippine Overseas Employment Administration (POEA)

The members of the Task Force shall be composed of permanent representatives with senior technical rank or designated alternates.

The Task Force shall be chaired by the Undersecretary for Worker's Protection and Welfare. Vice-Chair shall be Assistant Secretary for Internal Affairs. The OSHC shall serve as head of the Technical Working Group (TWG). The names of the permanent representatives/alternates should be submitted to the OSHC soonest.

This Order takes effect immediately.

For strict compliance.

HON. PATRICIA A. STO. TOMAS (sgd.)
Secretary

Annex 2

Guidelines for the Implementation of A Drug-Free Workplace Policies and Programs

Definition of Terms:

- a. Administer - any act of introducing any dangerous drug into the body of any person, with or without his/her knowledge, by injection, inhalation, ingestion or other means, or of committing any act of indispensable assistance to a person in administering a dangerous drug to himself/herself unless administered by a duly licensed practitioner for purposes of medication;
- b. Assessment Team - will be composed of the safety and health committee including occupational safety and health personnel, human resources managers, employers and workers' representatives trained to address all aspects of prevention, treatment and rehabilitation;
- c. Confirmatory Test - an analytical test using a device, tool or equipment with a different chemical or physical principle that is more specific which will validate and confirm the result of the screening test. It refers to the second or further analytical procedure to more accurately determine the presence of dangerous drugs in a specimen;
- d. Dangerous Drugs - include those listed in the Schedules annexed to the 1961 Single Convention on Narcotic Drugs, as amended by the 1972 Protocol, and in the Schedules annexed to the 1971 Single Convention on Psychotropic Substances as enumerated in the attached annex which is an integral part of this Act. (Annex A);
- e. Employee - shall mean any person hired, permitted or suffered to work by an employer. The term employee includes permanent, regular, temporary, casual, part-time, and contractual workers;
- f. Employer - includes any person or entity acting directly, or indirectly in the interest of the employer, in relation to an employee and shall include non-profit private institutions or organizations;
- g. Instrument - any thing that is used or intended to be used, in any manner, in the commission of illegal drug trafficking or related offenses;
- h. Interested Party - refers to the courts, law enforcement agencies or the employer, and workers' representatives;
- i. Near Miss - an incident arising from or in the course of work which could have led to injuries or fatalities of the workers and/or considerable damage to the employer had it not been curtailed;
- j. Prevention - is the promotion of drug-free lifestyle thru strategies such as advocacy, information dissemination, and capability building through training;
- k. Private Sector Organizations - refer to privately owned companies, corporations, associations, foundations, and the like;
- l. Random Drug Test - refers to unannounced schedule of testing with each employee having an equal chance of being selected for testing. The policy on the conduct of random drug test should be known to both employers and employees;

- m. Screening Test - a rapid test performed to establish potential/presumptive positive result. It refers to the immunoassay test to eliminate a "negative" specimen, i.e. one without the presence of dangerous drugs, from further consideration and to identify the presumptively positive specimen that requires confirmatory test;
- n. sell / sale - any act of giving away dangerous drug and / or controlled precursor and essential chemical whether for money or any other consideration;
- o. Treatment, Rehabilitation and Counseling - the dynamic process, including after-care and follow-up treatment, directed towards the physical, emotional/psychological, vocational, social and spiritual change/enhancement of a drug dependent to enable him/her to live without dangerous drugs, enjoy the fullest life compatible with his/her capabilities and potentials and render him/her able to become a law-abiding and productive member of the community;
- p. Use - any act of injecting, intravenously or intramuscularly, of consuming, either by chewing, smoking, sniffing, eating, swallowing, drinking or otherwise introducing into the physiological system of the body, any of the dangerous drugs;
- q. Work Accident - shall mean an unplanned or unexpected occurrence that may or may not result in personal injury, property damage, work stoppage or interference or any combination thereof of which arises out of and in the course of employment;
- r. Workplace - means the office, premises or worksite, where the workers are habitually employed and shall include the office or place, where the workers who have no fixed or definite worksite regularly report for assignment in the course of their employment. It shall also include venues used by the employer for company functions.

DEPARTMENT ORDER NO. 73-05

Series of 2005

GUIDELINES FOR THE IMPLEMENTATION OF POLICY AND PROGRAM ON TUBERCULOSIS (TB) PREVENTION AND CONTROL IN THE WORKPLACE

Pursuant to Executive Order No. 187, *Instituting a Comprehensive and Unified Policy for Tuberculosis Control in the Philippines (CUP)*, the following guidelines for the implementation of the policy and program on the prevention and control of tuberculosis in the workplace are hereby adopted and promulgated:

A. COVERAGE

These guidelines shall apply to all establishments, workplaces and worksites in the private sector.

B. FORMULATION OF WORKPLACE POLICY AND PROGRAM ON TB PREVENTION AND CONTROL

1) It shall be mandatory for all private establishments, workplaces and worksites to formulate and implement a TB prevention and control policy and program.

2) The workplace policy and program shall be made an integral part of the enterprise's occupational safety and health and other related workplace programs. A workplace health and safety committee shall be responsible for overseeing the implementation of the workplace TB policy and program.

3) Management and labor representatives shall jointly develop the TB workplace policy and program aligned with EO 187 and the CUP.

4) In organized establishments, the workplace policy and program shall, as much as possible, be included as part of the Collective Bargaining Agreements (CBA).

C. COMPONENTS OF A TB WORKPLACE PREVENTION & CONTROL POLICY AND PROGRAM

The TB Workplace policy and program to be adopted by establishments shall include, among others, the following components: prevention, treatment, rehabilitation, compensation, restoration to work, and social policies.

1. PREVENTIVE STRATEGIES

Programs on TB Advocacy, Education and Training, and measures to improve workplaces shall be carried out in all workplaces.

1.1. TB awareness program shall be undertaken through information dissemination

1.1.1. Such awareness programs shall deal with the nature, frequency and transmission, treatment with Directly Observed Treatment Short Course (DOTS), control and management of TB in the workplace.

1.1.2. DOTS is a comprehensive strategy to control TB, and is composed of five components. These are:

- Political will or commitment ensuring sustained and quality TB treatment and control activities.
- Case detection by sputum-smear microscopy among symptomatic patients.
- Standard short - course chemotherapy using regimens of 6 to 8 months for all confirmed active TB cases (i.e., smear positive or those validated by the TB Diagnostic Committee). Complete drug taking through direct observation by a designated treatment partner, during the whole course of the treatment regimen.

- A regular, uninterrupted supply of all essential anti-tuberculosis drugs and other materials.
- A standard recording and reporting system that allows assessment of case finding and treatment outcomes for each patient and of the tuberculosis control program's performance overall.

1.2. Workers must be given proper information on ways of strengthening their immune responses against TB infection, i.e. information on good nutrition, adequate rest, avoidance of tobacco and alcohol, and good personal hygiene practices. However, it should be underscored that intensive efforts in the prevention of the spread of the disease must be geared towards accurate information on its etiology and complete treatment of cases.

1.3. Improving workplace conditions:

1.3.1. To ensure that contamination from TB airborne particles is controlled, workplaces must provide adequate and appropriate ventilation (DOLE- Occupational Safety and Health Standards, OSHS, Rule 1076.01) and there shall be adequate sanitary facilities for workers.

1.3.2. The number of workers in a work area shall not exceed the required number of workers for a specified area and shall observe the standard for space requirement (OSHS Rule 1062).

1.4. Capability building on TB awareness raising and training on TB Case Finding, Case Holding, Reporting and Recording of cases and the implementation of DOTS shall be given to company health personnel or the occupational safety and health committee.

2. MEDICAL MANAGEMENT

2.1. All establishments shall adopt the DOTS in the management of workers with tuberculosis and their dependents. TB Case Finding, Case Holding, and Reporting and Recording of cases shall be in accordance with the CUP and the National Tuberculosis Control Program (NTP). (*Annex 1. National Tuberculosis Control Program: Policies and Procedures*)

2.2. All establishments shall, at the minimum, refer workers and family members with TB to private or public DOTS centers.

2.3. TB Benefits Policy of ECC, SSS and PhilHealth

The diagnostic and treatment criteria in the current NTP policy will be adopted as the basis for determining appropriate compensation for TB benefits from the ECC, SSS and PhilHealth. Kindly refer to the existing TB Comprehensive Unified Policy (*Refer to CUP link in OSHC website: www.oshc.dole.gov.ph*)

3. RECORDING, REPORTING AND SETTING-UP A DATABASE

3.1. In compliance with DOLE requirements for reporting of illnesses and injuries in the workplace, companies shall report all diagnosed cases of TB to the Department of Labor and Employment using an appropriate form, i.e., the Annual Medical Report. (OSHS RULE 1965.01 (4) and Rule 1053.01 (1)). This information shall be a part of the TB Registry of the DOH.

3.2. SSS shall report members who applied for Disability Benefit for TB to the Philippine Coalition Against Tuberculosis (PhilCAT) or other such body designated to manage the National TB Data Base. PhilCAT shall share the data on TB with the DOLE, specifically the OSHC.

4. SOCIAL POLICY

4.1. Non-discrimination

Workers who have or had TB shall not be discriminated against. Instead, the worker shall be supported with adequate diagnosis and treatment, and shall be entitled to work for as long as they are certified by the company's accredited health provider as medically fit and shall be restored to work as soon as their illness is controlled.

4.2. Work Accommodation

Through agreements made between the management and workers, work accommodation measures to accommodate and support workers with TB is encouraged through flexible leave arrangements, rescheduling of working times, and arrangements for return to work.

4.3 Restoration to Work

The worker may be allowed to return to work with reasonable working arrangements as determined by the company Health Care provider and/or the DOTS provider.

5. ROLES AND RESPONSIBILITIES OF WORKERS WITH TB OR AT RISK FOR TB

5.1. Workers who have symptoms of TB shall seek immediate assistance from their health service provider. Similarly those at risk, i.e., those with family members with TB, shall do the same.

5.2. Once diagnosed, they shall avail of the DOTS and adhere to the prescribed course of treatment.

6. ROLES AND RESPONSIBILITIES OF EMPLOYERS

6.1. Any contact in the workplace shall be traced and the contacts shall be clinically assessed.

6.2. In the context of their Corporate Social Responsibility and OSH and related programs, employers are encouraged to extend the TB program to their workers' families and their respective communities.

7. IMPLEMENTATION AND MONITORING

7.1. The Occupational Safety and Health Center (OSHC) shall provide preventive and technical assistance in the implementation of the Workplace TB program at the enterprise level.

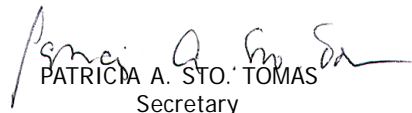
7.2. The Bureau of Working Conditions (BWC) and the DOLE Regional Offices through their labor inspectors shall enforce these guidelines following the labor standards enforcement framework (DOLE D.O. 57-04).

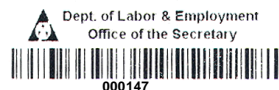
7.3. All employers shall disseminate these guidelines in their respective workplaces.

8. EFFECTIVITY

All concerned shall comply with all the provisions of this Department Order within 30 days from its publication in a newspaper of general circulation.

30 March 2005.


PATRICIA A. STO. TOMAS
Secretary



ANNEX 1. NATIONAL TUBERCULOSIS PROGRAM: POLICIES AND PROCEDURES *(Refer to the CUP)*

A. POLICIES OF CASE FINDING

1. Direct sputum smear examination shall be the primary diagnostic tool in NTP case finding.
 - a) All symptomatic identified shall be made to undergo smear examination for diagnosis prior to initiation of treatment, regardless of whether they have available X-ray results or whether they are suspected of having extra-pulmonary TB. The only contraindication for sputum collection is massive hemoptysis.
 - b) It is only after a pulmonary TB symptomatic has undergone a sputum examination for diagnosis with three sputum specimens and subsequently yielded negative results that he shall be made to undergo other diagnostic tests such as X-ray, culture and others, if necessary.
 - c) Sputum smear examination is the preferred method for the diagnosis of TB. No diagnosis of TB shall be made based of the result of X-ray examinations alone. Skin tests for TB infection (PPD skin tests) should not be used as a basis for the diagnosis of TB in adults.
 - d) All municipal and city health offices shall be encouraged to establish and maintain at least one microscopy unit in their areas of jurisdiction.
2. Passive case finding shall be implemented in all health stations. Concomitant active case finding shall be encouraged only in areas where a cure rate of 85 percent or higher has been achieved, or in areas where no sputum smear positive case has been reported in the last three months.
3. Only adequately trained medical technologist or NTP microscopists shall perform sputum smear examination (smearing, fixing and staining of sputum specimens, reading the smear).

Figure 1. FLOW CHART FOR THE DIAGNOSIS OF PULMONARY TUBERCULOSIS

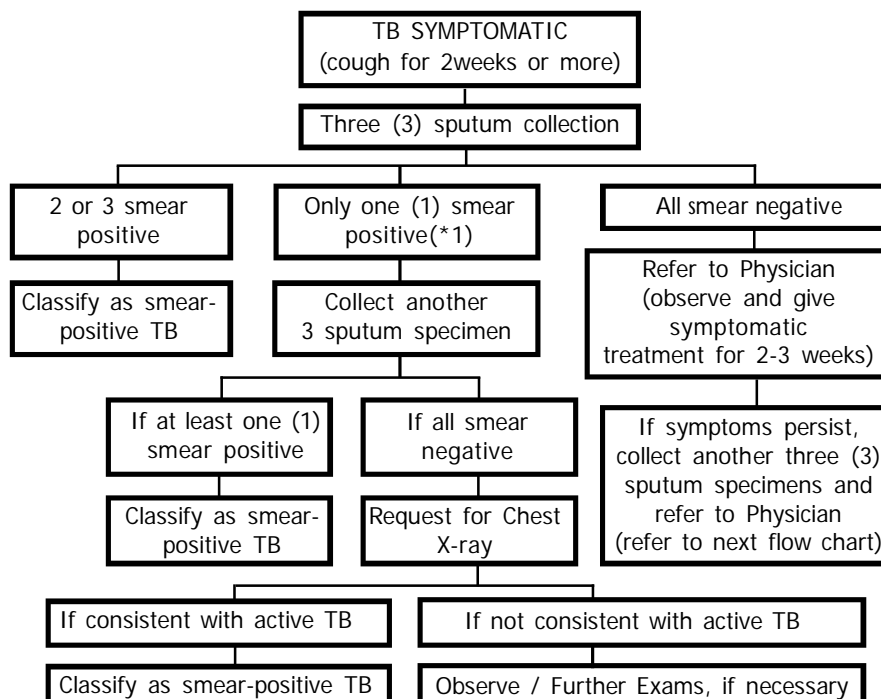
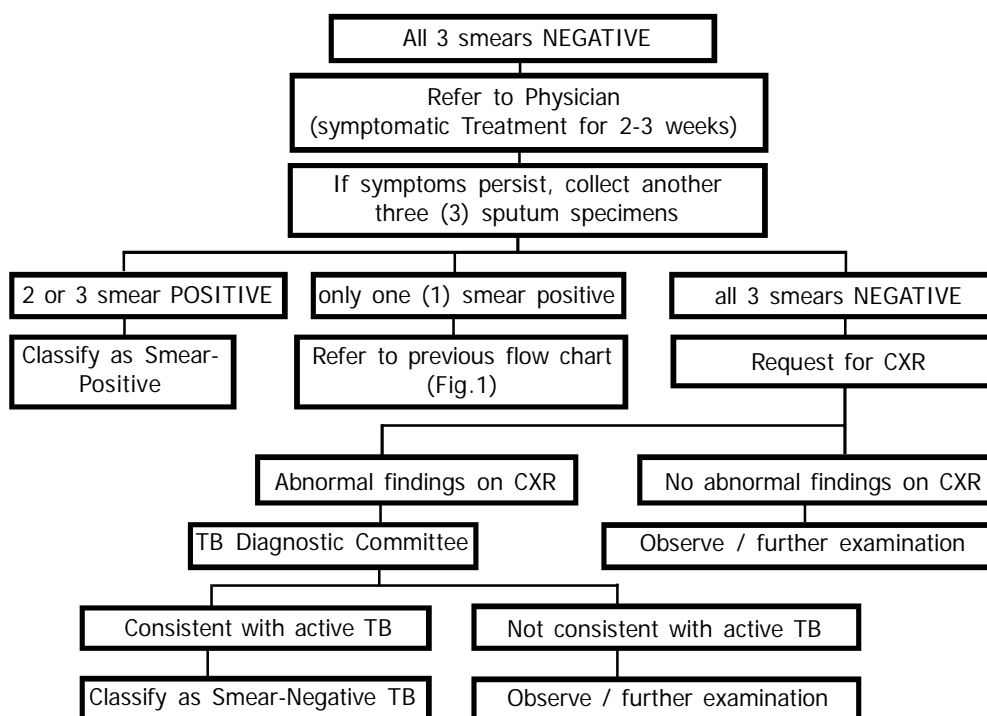


Figure 2. FLOW CHART FOR THE DIAGNOSIS OF SMEAR NEGATIVE PULMONARY TUBERCULOSIS



B. POLICIES OF CASE HOLDING (TREATMENT)

1. Case holding does not only refer to treatment per se, but also means making sure that TB patients religiously take all the anti-TB drugs everyday without fail until they complete their treatment. The strategy developed to ensure treatment compliance is called Directly Observed Treatment (DOT). DOT works by assigning a responsible person, referred to as the treatment partner, to observe or watch the patient take the correct medications daily during the course of treatment. DOT can be done in any accessible and convenient place (e.g. health facility, treatment partner's house, patient's place of work, patient's house) as long as the treatment partner can effectively ensure the patient's intake of the prescribed drugs and monitor his/her reactions to the drugs.
2. Treatment of TB cases shall consist of at least three anti-TB drugs during the intensive phase and two (2) drugs in the maintenance phase.
3. Complete drug regimen shall be provided for each patient once started on treatment.
4. DOT(Directly Observed Treatment or Supervised Treatment) shall be adopted in the treatment of TB patients.
5. Sputum follow-up examination shall be done to all TB cases as scheduled to monitor treatment response.
6. Treatment outcome shall be determined for each patient.
7. Latent TB Infection (LTI): The diagnosis and treatment of LTI is NOT part of the NTP or this comprehensive policy for TB control. If a private physician wishes to carry out such diagnosis and treatment it can not be subsidized by the National TB Program or the Philippine Health Insurance Corporation.

**MALACAÑANG
MANILA**

**BY THE PRESIDENT OF THE PHILIPPINES
EXECUTIVE ORDER NO. 187**

INSTITUTING A COMPREHENSIVE AND UNIFIED POLICY FOR THE TUBERCULOSIS CONTROL IN THE PHILIPPINES

WHEREAS, Tuberculosis (TB) remains a major public health problem, ranking sixth in 1998 in the 10 leading causes of death and illness in the Philippines;

WHEREAS, the National TB Program (NTP) of the Department of Health (DOH) has made significant advances in improving the quality and extent of its control efforts;

WHEREAS, the DOH has forged a partnership with the Philippine Coalition Against Tuberculosis (PhilCAT) to develop a **“Comprehensive and Unified Policy for TB Control in the Philippines”** in collaboration with other government agencies and private sectors to harmonize and unify the TB control efforts in the Philippines;

WHEREAS, the **“Comprehensive and Unified Policy for TB Control in the Philippines”** adopting the DOTS strategy (5 components) of the National TB Program (NTP) shall be the basis of implementation of TB control among the concerned stakeholders.

- Direct sputum smear examination shall be the initial diagnostic tool in case finding
- Standardized chemotherapy in accordance with the National TB Program,
- Recording and Reporting of cases shall be on the standardized National TB program (NTP) to be implemented in all health centers
- Direct Observed Treatment (DOT) shall be used as the strategy to ensure patient compliance
- Political commitment to ensure sustained, comprehensive implementation of National TB Program activities.

WHEREAS, this policy was ratified by the heads of the organizations listed below during the First Philippine Tuberculosis Summit Conference, held on the 7th of March 2003, at the EDSA Shangri-La Hotel, Ortigas Center, Mandaluyong City, Metro Manila, Philippines;

Now, THEREFORE, I, GLORIA MACAPAGAL-ARROYO, President of the Philippines, by virtue of the powers vested in me by law, do hereby instruct these government agencies:


1. Department of Health
2. Department of Education
3. Department of Interior and Local Government
4. Department of National Defense
5. Department of Justice - Bureau of Corrections
6. Department of Social Welfare and Development
7. Department of Agriculture
8. Department of Agrarian Reform
9. Department of Science and Technology
10. Philippine Health Insurance Corporation
11. Department of Labor and Employment
12. Overseas Workers and Welfare Administration
13. National Economic and Development Authority
14. National Commission on Indigenous People
15. Government Service Insurance System
16. Social Security System
17. Employees' Compensation Commission

and enjoin the following private sector organizations

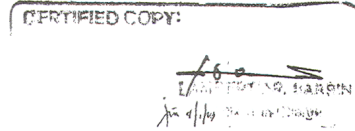
18. Philippine Coalition Against Tuberculosis (with 52 members)
19. Philippine Medical Association
20. Trade Union Congress of the Philippines
21. Employers Confederation of the Philippines
22. Association of Health Maintenance Organizations of the Phils.

to work in partnership, to conduct the dissemination of, and the training on, the said " Comprehensive and Unified Policy for TB Control in the Philippines" from the date of this Order.

DONE in the City of Manila, this 21st day of March, in the year of Our Lord Two Thousand and Three.


ALBERTO G. ROMULO
Executive Secretary





DEPARTMENT ORDER NO. 74-05
Series of 2005

RULE 1162.02 OF RULE 1160 ON BOILER OF THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Pursuant to Article 162 of Presidential Decree No. 442, otherwise known as the Labor Code of the Philippines as amended Rule 1162.02 of Rule 1160 on Boiler of the Occupational Safety and Health Standards is hereby amended as follows.

1162.02: Inspection and Test of Boilers

1. The Regional Office concerned through its authorized technical safety inspectors shall conduct inspection, both internally and externally on all boiler parts and appliances on the following phases of work:

A. Power Utility Boiler

1. During construction or fabrication, the boiler shall be hydrostatically tested at 1.5 times the design pressure after completion of work;
2. Before being placed into service after completion of installation the boiler shall be hydrostatically tested at 1.5 times the design pressure;
3. Before being placed into service after completion of reconstruction or repair the boiler shall be hydrostatically tested at 1.2 times the maximum allowable working pressure;
4. The test shall be conducted at a minimum water temperature of not less than 21°C (70°F) and a maximum temperature not to exceed 71°C (160°F); and
5. The conduct of inspection shall coincide with the scheduled plant shutdown for purposes of overhauling/preventive maintenance. Such inspection shall be conducted at an interval not exceeding eighteen (18) months. It shall be the duty of the power plant owner/operator to inform the Regional Office 30 days prior to the scheduled shutdown. Likewise the Regional Office concerned shall serve Notice of Inspection five (5) days prior to the scheduled plant shutdown. In case of failure of owner/operator to notify DOLE prior to the regular shutdown, the permit to operate shall be suspended. The owner/operator shall have the boiler drained, cooled, opened-up and thoroughly cleaned for the conduct of internal and external inspection on all boiler parts and appliances. If the boiler has not been properly prepared for the inspection or the owner/operators fails to comply with the stated requirements, the technical safety inspector shall decline to make the inspection. Hydrostatic pump shall always be made ready just in case the boiler is to be subjected to a hydrostatic test on conditions specified in 1162.02 (1) A of this Rule.

In lieu of hydrostatic test, any of the following non-destructive testing, which is/ are applicable shall be conducted and performed periodically but not exceeding 18 months on the boiler head, shell and tubes, by DOLE-Accredited Non-Destructive Testing (NDT) organization.

- a. radiographic;
- b. ultrasonic
- c. thickness gauging;
- d. magnetic particle;
- e. liquid penetrant;
- f. and/or other equivalent non-destructive test.

- B. Industrial Boiler
 - 1. During construction or fabrication, the boiler shall be hydrostatically tested at 1.5 times the design pressure after completion of work;
 - 2. Before being placed into service after completion of installation the boiler shall be hydrostatically tested at 1.5 times the design pressure;
 - 3. Before being placed into service after completion of reconstruction or repair the boiler shall be hydrostatically tested at 1.5 times the maximum allowable working pressure;
 - 4. The test shall be conducted at a minimum water temperature of not less than 21°C (70°F) and a maximum temperature not to exceed 71°C (160°F); and
 - 5. Under proper control and to reach the required test pressure gradually, in no case shall this test pressure be exceeded by more than six percent (6%);
 - 6. During hydrostatic test, the safety valves shall be removed and the valve disc held down by means of testing clamps and not be screwing down the compression screw upon the spring; and
 - 7. The Regional Office concerned shall serve Notice of Inspection for the annual inspection of boiler to the owner/operator thirty (30) days before the expiration of the permit to operate the boiler and at the exact date of scheduled inspection, the owner/operator shall have the boiler drained, cooled, opened-up and thoroughly cleaned for the conduct of internal and external inspection on all boiler parts and appliances. If the boiler has not been properly prepared for the inspection or the owner/operators fails to comply with the stated requirements, the technical safety inspection shall decline to make the inspection. Hydrostatic pump shall always be made ready for the conduct of hydrostatic test.
- 2. The conduct of hydrostatic test on boilers that have been tested as new shall be performed as follows:
 - A. Power Utility Boiler

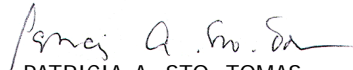
The conduct of hydrostatic test shall be done every five (5) years for power utility boilers unless the existence of the following conditions are noticed during the inspection:

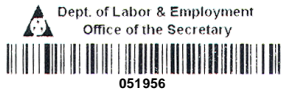
 - 1. Deposit and scales on drums, tubes and other pressure parts.
 - 2. Boiler cracks, broken stays, pitting, corrosion, erosion, scale and thin places in the drum
 - 3. Wastage of tube ends.
 - B. Industrial Boiler

The conduct of hydrostatic test for industrial boiler shall be done at an interval frequency of not more than 12 months.
- 3. Hydrostatic test and non-destructive test shall be conducted in the presence of the technical safety inspector.
- 4. Boilers found unsafe by inspecting authority shall not be allowed to operate and no permit shall be issued until the boiler defect/s is/are corrected and their fittings are in good condition to ensure safe operation. The validity of permit to operate for power utility boiler shall be eighteen (18) months and twelve (12) months or one (1) year for industrial boiler or other boiler from the date of inspection.

All policy issuances, rules and regulations or part/s thereof inconsistent any provision of this Order is hereby repealed, modified, superseded or amended accordingly cd06labor.
The above-mentioned amendments shall take effect fifteen (15) days after announcement of their adoption in two (2) newspapers of general circulation.

Manila, Philippines, on 18th day of November 2005


PATRICIA A. STO. TOMAS.
Secretary



DEPARTMENT CIRCULAR NO. 1
Series of 2008

Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Intramuros, Manila

**POLICY GUIDELINES GOVERNING THE OCCUPATIONAL SAFETY AND HEALTH OF
WORKERS IN THE CALL CENTER INDUSTRY**

Pursuant to the rule-making authority of the Secretary of Labor and Employment under Article 5 of Labor Code, as amended, and to ensure the protection and welfare of workers employed in the call center industry, the following Guidelines are hereby issued for the guidance of and compliance by all concerned:

SECTION 1. COVERAGE. - These Guidelines shall apply to all establishments, workplaces, operations and undertakings in the call center industry.

SECTION 2. DEFINITION OF TERMS. - As used in these Guidelines, the following terms shall mean:

- a. "Call or Contact Center" refers to a central customer service operation where agents - or customer care specialists or customer service representatives - handle business-related telephone calls and other IT-related activities on behalf of a client.
- b. "Occupational Safety and Health Program" refers to planned activities aimed prevent, eliminate, reduce or control occupational risks and hazards.
- c. "Safety and Health Committee" refers to a group of employees and management representatives concerned with the planning, policy-making, implementation and evaluation of all matters pertaining to safety and health.
- d. "Safety and Health Personnel" refers to a qualified first-aid staff, nurse, dentist, physician or safety officer engaged by the employer to provide occupational safety and health services.
- e. "Occupational Safety and Health Standards (OSHS)" refers to the set of Rules issued by the Department of Labor and Employment (DOLE) which mandates the adoption and use of appropriate practices, means, methods, operations or processes, and working conditions reasonably necessary to ensure safe and healthful employment.

SECTION 3. WORKPLACE POLICY ON OCCUPATIONAL SAFETY AND HEALTH - An occupational safety and health policy shall be formulated by each establishment addressing the priority safety and health concerns in workplaces and worksites classified as call or contact centers, in accordance with the Occupational Safety and Health Standards (OSHS) and other related OSH issuances.

SECTION 4. COMPONENTS OF THE OCCUPATIONAL SAFETY AND HEALTH PROGRAM. - The OSH program shall include:

- a. Hazard and Risk Prevention and Control to reduce the extent of exposure to hazards and to decrease the likelihood for those hazards to cause illness or injury.
- b. Capability building for members of the Safety and Health Committee to undertake risk management activities through information, training, and work environment safety and health interventions.
- c. Referral and Access to Medical and Welfare Services - Appropriate services as required under Rule 1960 of the OSHS shall be made available which would address the physical, ergonomic and psychological aspects of the work environment as well as the health and safety needs of the workers.

SECTION 5. ROLES AND RESPONSIBILITIES OF THE EMPLOYERS AND WORKERS. - The parties herein shall have the following roles and responsibilities:

- a. The employer shall formulate and implement a suitable OSH program based on its policy and in accordance with the OSHS and other related OSH issuances, and with the Technical Guidelines on OSH for the Call Center Industry.
- b. The employer shall organize a safety and health committee pursuant to Rule 1040 of the OSHS in every workplace whose function is to develop and oversee the implementation of OSH program to include workers orientation and awareness on hazards identification, risk evaluation, prevention and control.
- c. The employer shall require their workers to undergo an Orientation Course on OSH.
- d. The employer shall provide the applicable number of safety and health personnel such as safety officer, occupational health nurse, occupational health physician and qualified first-aid staff as required by Rules 1030 and 1960 of the OSHS, and the required training for each category.
- e. The workers are enjoined to take an active role in education and training, in developing and implementing joint continuing programs and information campaigns on safety and health.

SECTION 6. SOCIAL POLICY. - The employer shall make available occupational safety and health and welfare facilities needed by qualified individuals with specific needs for workers such as pregnant or lactating women, young, older and differently-abled workers.

SECTION 7. PROGRAM IMPLEMENTATION. - In line with the Zero Accident Program (ZAP), the Occupational Safety and Health Center (OSHC) of the DOLE shall coordinate the provision of training, information and technical assistance in the implementation of the safety and health program at enterprise level.

SECTION 8. ENFORCEMENT AND MONITORING. - The Labor Inspectorate of the DOLE Regional Offices shall be responsible for the enforcement and monitoring of the provisions of this Circular.

SECTION 9. EFFECT ON EXISTING ISSUANCES AND AGREEMENTS. - This issuance shall serve as policy and procedural guidelines for the DOLE and its agencies in the administration and enforcement of applicable labor and social legislations and their implementing regulations.


Nothing herein shall be construed to authorize diminution or reduction of benefits being enjoyed by the employees at the time of issuance hereof.

SECTION 10. EFFECTIVITY. - This Circular shall take effect fifteen (15) days after its publication in a newspaper of general circulation.

Manila, Philippines, February 27, 2008.


ARTURO D. BRION

Secretary

 Dept. of Labor & Employment
Office of the Secretary



**DEPARTMENT CIRCULAR NO. 2
Series of 2008**

**Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Intramuros, Manila**

**AMENDING CERTAIN PROVISIONS OF THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS**

Pursuant to Articles 5 (Rules and Regulations), 6 (Applicability), and 162 (Safety and Health Standards) of the Labor Code of the Philippines, as amended, Rule 1003.03 (Application to Transportation) of the Occupational Safety and Health Standards is hereby amended to read as follows:

"1003.03: Application to Transportation:

Establishments engaged in land, sea and air transportation are likewise covered by these Standards."

This Circular shall take effect upon publication in a newspaper of general circulation.

Manila, Philippines, 02 June 2008.


MARIANITO. D. ROQUE
Secretary
Dept. of Labor & Employment
Office of the Secretary

061188

**JOINT DTI-DENR-DA-DOF-DOH-DILG-DOLE-DOTC
ADMINISTRATIVE ORDER NO. 01
Series of 2009**

**THE ADOPTION AND IMPLEMENTATION OF THE
GLOBALLY HARMONIZED SYSTEM OF
CLASSIFICATION AND LABELING OF CHEMICALS (GHS)**

Whereas, the Philippines is a participating government during the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil in June 1992;

Whereas, the Philippine Government adheres to the principles embodied in Agenda 21, which were adopted at the UNCED;

Whereas, Chapter 19, Program B of Agenda 21 mandates that a globally harmonized hazard classification and compatible labeling system, including material safety data sheets and easily understandable symbols, should be available, if feasible, by the year 2000;

Whereas, at the World Summit for Sustainable Development (WSSD) held in Johannesburg, South Africa in September 2002, governments reaffirmed their commitments and agreed on a 2008 implementation target for the GHS;

Whereas, at the 14th Asia-Pacific Economic Corporation (APEC) APEC Ministerial Meeting held in Los Cabos, Mexico in October 2002, the APEC members were encouraged to work towards implementing the Globally Harmonized System on hazard classification and labeling of chemicals and safety data sheets by 2006;

Whereas, the first version of the GHS was adopted in December 2002 by the UN SubCommittee on the Globally Harmonized System of Classification and Labeling of Chemicals (UNSCGHS), and endorsed by the UN Committee on the Transport of Dangerous Goods and the Globally Harmonized System of Classification and Labeling of Chemicals (UN CTDGHS);

Whereas, at the 18th APEC Ministerial Meeting held in Hanoi, Vietnam in November 2006, the member economies were encouraged to continue their efforts to implement the GHS with a view to having it fully implemented by the recommended target date of 2008;

Whereas, the identified sectors of the GHS implementation are: agriculture, industrial workplace/production, transport and consumer products;

Whereas, based on the Situation and Gap Analysis conducted on the identified sectors, there are already existing laws in the Philippines addressing the management of chemicals, particularly on labeling;

Whereas, there is a need to revise the Implementing Rules and Regulations (IRR) of the concerned laws to implement the provisions of GHS;

Whereas, to ensure the involvement and commitment of concerned government agencies in addressing these target sectors of the GHS implementation, a Joint Administrative Order is hereby promulgated.

NOW, THEREFORE, this Order is hereby prescribed by the undersigned Departments for the information, guidance and compliance of all concerned:

Section 1. Objective

The objective of this Joint Administrative Order is the adoption and implementation of classification criteria, labeling and Safety Data Sheet (SDS) requirements of the GHS.

Section 2. Definitions

- a. GHS is an acronym for Globally Harmonized System of Classification and Labeling of Chemicals. The GHS is a system for standardizing and harmonizing the classification and labeling of chemicals. It is a logical and comprehensive approach to
 - Defining health, physical and environmental hazards of chemicals
 - Creating classification processes that use available data on chemicals for comparison with the defined hazard criteria; and
 - Communicating hazard information, as well as protective measures, on labels and Safety Data Sheets (SDS).
- b. Harmonization refers to establishing a common and coherent basis for hazards classification and communication of chemicals, and the appropriate elements relevant to means of transport, consumers, workers and environmental protection can be selected/chosen.
- c. Label refers to an appropriate group of written, printed or graphic information elements that are affixed to, printed on, or attached to the immediate container of a hazardous product, or to the outside packaging of a hazardous product.
- d. Hazards refer to the inherent characteristics of chemical substances and mixtures that exist in the workplace and in the environment regardless of quantity that are potentially dangerous or which have the capacity to harm, i.e., its capacity to interfere with normal biological processes, and its capacity to burn, explode, corrode, etc.
- e. "Chemical substance" means any organic or inorganic substance of a particular molecular identity including any element or uncombined chemical and any combination of such substances, or any mixture of two and excluding radioactive materials.
- f. "Mixtures" refer to combination of two or more chemical substances with no chemical reaction taking place.
- g. "Toxic or hazardous substances" refer to the chemical substances or mixtures that may be harmful to the environment and/or to human health in a short-term and longterm basis if it is inhaled, swallowed, or absorbed through the skin.
- h. The Safety Data Sheet (SDS) is a document that provides important physical characteristics, ecological, health, safety and toxicological information on chemical substances or mixtures of ingredients used at the workplace, transported and may be utilized by the consumer.

Section 3. Scope

This Joint Administrative Order sets out the duties and responsibilities of the GHS implementing and coordinating government agencies in the adoption of the classification criteria, labeling, and SDS requirements of the GHS (Please see Annex A).

The GHS adoption shall cover chemicals and mixtures. In the case of pesticides for agriculture and other uses, due consideration shall be given to incorporating the GHS principles, where appropriate, into the FAO/WHO basic principles and guidelines which the Fertilizer and Pesticide Authority (FPA) uses particularly with regard to toxicity and hazard classification and other labeling requirements. In the transport sector, the GHS is implemented through the United Nations Recommendations on the Transport of Dangerous Goods (UNRTDG).

Pharmaceuticals, food additives, cosmetics, and pesticide residues in food shall not be covered at the point of intentional intake, except at the workplace and during transport.

Section 4. Creation of a National GHS Implementing and Coordinating Committee

A National GHS Implementing and Coordinating Committee shall be created which will be headed by the Department of Trade and Industry – Board of Investments. The following shall be the GHS implementing and coordinating government agencies:

- a. Department of Agriculture (DA);
- b. Department of Environment and Natural Resources (DENR);
- c. Department of Finance (DOF);
- d. Department of Health (DOH);
- e. Department of Interior and Local Government (DILG);
- f. Department of Labor and Employment (DOLE);
- g. Department of Transportation and Communications (DOTC); and
- h. Department of Trade and Industry (DTI).

Section 5. Duties and Responsibilities of the Implementing and Coordinating Committee

The National GHS Implementing and Coordinating Committee shall have the following duties and responsibilities:

- a. Oversee the development and formulation of the Implementing Rules and Regulations of concerned agencies in adopting the GHS and its principles of application set out in Part 1 of the GHS Manual, which shows the GHS Pictograms and Hazard Classes (Annex B) and Safety Data Sheets Format and Guidelines (Annex C).
- b. Convene and attend inter-agency meetings and other related activities concerning GHS development;
- c. Coordinate, monitor and provide guidance on the implementation of the GHS.

Section 6. Repealing Clause

All other issuances inconsistent with this Joint Administrative Order and all its annexes are hereby repealed or modified accordingly.

Section 7. Effectivity

This Joint Administrative Order shall take effect immediately after 30 days from comp

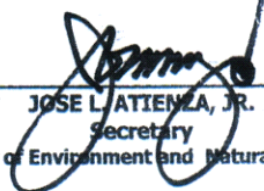
letion of publication in the Official Gazette or in a newspaper of general circulation and registration with the UP Law Center. May 2009
Issued this _____ day of _____ in Makati City, Philippines.

Approved:

DEPARTMENT OF AGRICULTURE
in resolving all cases.
For Signature: 8-10-08-0055
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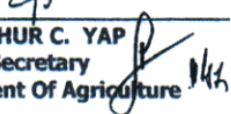


PETER B. FAVILA
Secretary
Department of Trade and Industry

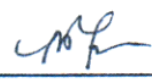


JOSE L. ATIENZA, JR.
Secretary
Department of Environment and Natural Resources

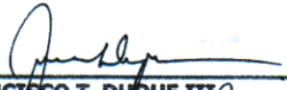
Republic of the Philippines
DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
MANILA, PHILIPPINES
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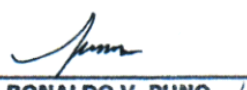
ARTHUR C. YAP
Secretary
Department Of Agriculture



MARGARITO B. TEVES
Secretary
Department Of Finance



FRANCISCO T. DUQUE III
Secretary
Department of Health



RONALDO V. PUNO
Secretary
Department of Interior and Local Government

Dept. of Labor & Employment
Office of the Secretary
09-000253



MARIANITO D. ROQUE
Acting Secretary
Department of Labor and Employment



LEANDRO R. MENDOZA
Secretary
Department of Transportation and Communications

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MANDATES AND COVERAGE OF THE IMPLEMENTING AND COORDINATING AGENCIES

AGENCY	MANDATE/THRUST	GHS RESPONSIBILITY
DEPARTMENT OF AGRICULTURE (DA)		
Fertilizer and Pesticides Authority (FPA)	PD 1144 - Creation of Fertilizer and Pesticide Authority (FPA)	Specify the basic requirements for a pesticide label including the prescribed statements, language, FPA control number, precautionary measures consistent with FAO/WHO* labeling guidelines. * The FAO and WHO are currently studying how the GHS labeling requirements can be incorporated in the FAO/WHO guidelines.
	Article V of the FPA Rules and Regulations No.1, Series of 1977, in particular Sections 1 to 4,6 and 8 of PD 1144.	Develop training and guidance materials adoptable to the needs of agricultural workers.
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR)		
Environmental Management Bureau (EMB)	E.O. 192 – Creation of the EMB	
	Republic Act 6969 "Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990." Section 4, Item C of RA 6969 mandated "to inform and educate the populace regarding the hazards and risks attendant to the manufacture, handling, storage, transportation, processing, distribution, use and disposal of toxic chemical substances and other mixtures"	To formulate, review and draft relevant policies and procedural guidelines for GHS implementation of industrial chemicals.
	Sections 17,18, and 19 of the DENR DAO No. 92-29 (Philippine Inventory of Chemicals and Chemical Substances, Priority Chemical List).	Initiate and assist in the GHS dissemination and capability building for the concerned industrial chemical stakeholders in cooperation with the Samahan sa Pilipinas ng mga Industriyang Kimika (SPIK).

AGENCY	MANDATE/THRUST	GHS RESPONSIBILITY
DEPARTMENT OF FINANCE	Section 20 of the DENR DAO No. 92-29 (Chemical Control Order) on the Labeling and Re-labeling Requirements.	
Bureau of Customs (BOC)		Monitor the importation and export of all kinds of chemical substances, mixtures and products in accordance with the GHS requirements for labeling and preparation of Safety Data Sheets (SDS).
DEPARTMENT OF HEALTH (DOH)	PD 881- Empowering the Secretary of Health to Regulate the Labeling, Sale and Distribution of Household Hazardous Substances	Develop framework of activities in support to the implementation of GHS.
Bureau of Food and Drugs (BFAD)	<p>Administrative Order # 311-Series 1977- Labeling Requirements of Hazardous Substances</p> <p>Chapter IV of RA 7394 on "Labeling and Fair Packaging" of RA 7394, states that the State "shall enforce compulsory labeling, and fair packaging to enable the consumer to obtain accurate information as to the nature, quality and quantity of the contents of consumer products and to facilitate its comparison of the value of such products.</p>	<p>Provide technical assistance to concerned government agencies related to health/ toxicological concerns on GHS for hazardous household substances.</p> <p>Issue implementing rules and regulations on GHS implementation.</p>
DEPARTMENT OF INTERIOR AND LOCAL GOVERNMENT (DILG)	Section 5 of RA 6975 (DILG Act of 1990) and IRRs	Formulate and promulgate pertinent laws, policies, programs, rules and regulations and other issuances regarding the implementation of GHS, wherein the Department has general supervision over the local government units that issues business licenses and permits.
Bureau of Fire Protection (BFP)	Section 54 of RA 6975. Power and Functions of BFP, Section 8.a.2 & 8.b of PD 1185 (Fire Code of the Philippines) and Rule 27 (Hazardous Materials and Chemicals) of its IRR	Conduct inspection and prescribe safety measures on the storage, handling and/or use of explosives or of combustible, flammable, toxic and other hazardous materials.

AGENCY	MANDATE/THRUST	GHS RESPONSIBILITY
		<p>Issue implementing rules and regulations on GHS implementation.</p> <p>Responsible in developing emergency and contingency preparedness and responses.</p>
Philippine National Police-Aviation Security Group (PNP-ASG)		Responsible in the handling/monitoring of dangerous goods and in developing emergency and contingency preparedness and responses.
DEPARTMENT OF LABOR AND EMPLOYMENT (DOLE)	Art 162 and 165, Chapter 2, Book IV, Title I & II of the Labor Code of the Philippines (PD 442) and its IRR.	<p>Enforce GHS provisions in the Occupational Safety and Health (OSH) standards.</p> <p>Facilitate GHS implementation through review of existing policies and laws in consultation with social partners and other stakeholders.</p>
Occupational Safety and Health Center (OSHC)	Industrial Chemicals Rule 1070 of the Occupational Health and Safety Standards (Occupational Health and Environmental Control)	<p>Develop information materials and training modules for capability building of concerned government and private sector to implement GHS.</p> <p>Develop and implement awareness raising program and skills training program for employees and workers in the private sector, and in government (labor inspectors).</p> <p>Provide technical inputs in policy formulation and standard setting on occupational safety and health.</p>
Bureau of Working Conditions (BWC)	Rule 1090 of the Occupational Health & Safety Standards (Handling of Hazardous Substances)"	<p>Develop and prescribe standard guidelines for the implementation of GHS, including program development and advisory function for the administration and enforcement of the same.</p> <p>Technical supervision over the sixteen (16) labor inspectorate – enforcement in the regions.</p>

AGENCY	MANDATE/THRUST	GHS RESPONSIBILITY
DEPARTMENT OF TRADE AND INDUSTRY (DTI)	RA 7394 – Consumer Act of the Philippines	<p>Conduct information and education campaign for GHS awareness raising</p> <p>Board of Investments (BOI) Coordinate, monitor, and provide guidance on the implementation of the GHS.</p>
		<p>Initiate and assist in the GHS dissemination and capability building for the concerned stakeholders.</p> <p>Provide technical inputs in policy formulation and network.</p>
Bureau of Product Standards (BPS)		<p>Prepare label standards for chemical substances and mixtures for consumer products.</p> <p>Ensure the clear differences of risk and hazard- based labeling for consumer products.</p>
Philippine Economic Zone Authority (PEZA)		<p>Monitor in the economic zones the importation and export of all kinds of chemical substances, mixtures and products in accordance with the GHS requirements for labeling and preparation of SDS.</p>
DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS (DOTC)	EO 125 & 125-A or the Reorganization Act of the Ministry of Transportation and Communications	<p>Mandated to be the primary policy, planning, and programming in the promotion, development and regulation of dependable, efficient, affordable, safe, environment-friendly transportation and communication systems.</p> <p>Coordinate / monitor the implementation of the rules and regulations on the proper handling of chemicals/ dangerous goods in transit by the various modes of transportation.</p> <p>Implement GHS through the UN Model Regulations on the Transport of Dangerous Goods and the major legal instruments regulating transport of dangerous goods, e.g., International Maritime Dangerous Goods Code (IMDG Code) and International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI).</p>

AGENCY	MANDATE/THRUST	GHS RESPONSIBILITY
Maritime Industry Authority (MARINA)	EO 125 & 125 –A, Clean Air Act, Philippine Merchant Marine Rules and Regulations (PMMRR).	Regulate, formulate, and issue policies on the safe carriage of dangerous, hazardous, and harmful cargoes on board Philippine registered commercial ships.
Philippine Coast Guard (PCG)	PD 61- Revised Coast Guard Law PD 979- marine Pollution Decree of 1979	Enforce all applicable laws governing the promotions of safety of line and property at sea and marine environment protection of the territorial waters of the Philippines. Implementation of rules and regulations governing marine pollution.
Philippine Ports Authority (PPA) / Other Port Authorities	Various laws, rules, and regulations on the handling of dangerous goods.	Regulate and enforce the safe handling of dangerous goods/ cargoes within the port. Conduct Training for cargo handlers and other port users.
Land Transportation Office (LTO)	RA 4136 or the Land Transportation and Traffic Code, and Clean Air Act.	Responsible for ensuring the safety operation and environmentally sustainable road transport system. Issue rules and regulations in the issuance of driver's license and registration to all motor vehicles and field enforcement of land transport laws.
Land Transportation and Franchising Regulatory Board (LTFRB)	CA #146 or Public Service Act	Issue rules and regulations pertaining to the issuance of franchise to all for-hire motor vehicles (PUV).
Civil Aviation Authority of the Philippines (CAAP) / Manila International Airport Authority (MIAA)	International Civil Aviation Organization (ICAO)/ International Air Transport Association (IATA) Manual on the handling of dangerous goods	Monitor the handling of dangerous goods in the aircrafts and within the airport perimeter. Provide training to the personnel who are responsible for the handling of dangerous goods.

AGENCY	MANDATE/THRUST	GHS RESPONSIBILITY
C i v i l Aeronautics Board (CAB)	RA 776, as amended CAB Economic Regulation No. 4 ICAO/ IATA Manual on the handling of dangerous goods	General supervision, jurisdiction, and control over the operations of international and domestic carriers and airfreight forwarders through close monitoring of shipments for protection and promotions of public interest and convenience in the air commerce. Provide procedures for the shipper and operators by which articles and substances with hazardous properties can be safely transported by air on all commercial transport.

GHS Pictograms and Hazard Classes



•OXIDIZERS



•FLAMMABLES
•SELF REACTIVES
•PYROPHORICS
•SELF-HEATING
•EMITS FLAMMABLE GAS
•ORGANIC PEROXIDES



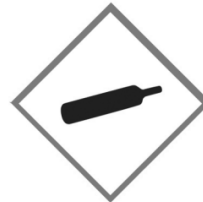
•EXPLOSIVES
•SELF REACTIVES
•ORGANIC PEROXIDES



•ACUTE TOXICITY
(severe)



•ENVIRONMENTAL TOXICITY



•GASES UNDER PRESSURE



•CARCINOGEN
•RESPIRATORY SENSITIZER
•REPRODUCTIVE TOXICITY
•TARGET ORGAN TOXICITY
•MUTAGENEICITY
•ASPIRATION TOXICITY



•CORROSIVES



•IRRITANT
•DERMAL SENSITIZER
•ACUTE TOXICITY (harmful)
•SPECIFIC TARGET ORGAN TOXICITY (Single Exposure)
•HAZARDOUS TO THE OZONE LAYER

SAFETY DATA SHEETS (SDS) FORMAT AND GUIDELINES**SDS Format**

The information in the SDS should be presented using the following 16 headings in the order given below.

1. Identification
2. Hazard(s) identification
3. Composition/information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information.

SDS Content and Guidelines

The SDS should provide a clear description of the data used to identify the hazards. The minimum information in Table 1 should be included, where applicable and available, on the SDS under the relevant headings. If specific information is not applicable or not available under a particular subheading, the SDS should clearly state this. Additional information may be required by competent authorities.

Table 1. Minimum Information for an SDS

1.	Identification of the substance or mixture and of the supplier	<ul style="list-style-type: none"> • GHS product identifier. • Other means of identification. • Recommended use of the chemical and restrictions on use. • Supplier's details (including name, address, phone number etc). • Emergency phone number.
2.	Hazards identification	<ul style="list-style-type: none"> • GHS classification of the substance/mixture and any national or regional information. • GHS label elements, including precautionary statements. (Hazard symbols may be provided as a graphical reproduction of the symbols in black and white or the name of the symbol e.g. flame, skull and crossbones.) • Other hazards which do not result in classification (e.g. dust explosion)
3.	Composition/information on ingredients Substance	<ul style="list-style-type: none"> • Chemical identity. • Common name, synonyms, etc. • CAS number, EC number, etc. • Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance. <p>Mixture</p> <ul style="list-style-type: none"> • The chemical identity and concentration or concentration ranges of all ingredients which are hazardous within the meaning of the GHS and are present above their cut-off levels. <p>NOTE: For information on ingredients, the competent authority rules for CBI take priority over the rules for product identification.</p>
4.	First aid measures	<ul style="list-style-type: none"> • Description of necessary measures, subdivided according to the different routes of exposure, i.e. inhalation, skin and eye contact and ingestion. • Most important symptoms/effects, acute and delayed. • Indication of immediate medical attention and special treatment needed, if necessary
5.	Firefighting measures	<ul style="list-style-type: none"> • Suitable (and unsuitable) extinguishing media. • Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products). • Special protective equipment and precautions for firefighters.
6.	Accidental release	<ul style="list-style-type: none"> • Personal precautions, protective equipment and emergency procedures. • Environmental precautions. • Methods and materials for containment and cleaning up

7.	Handling and Storage	<ul style="list-style-type: none"> • Precautions for safe handling. • Conditions for safe storage, including any incompatibilities.
8.	Exposure controls/ personal protection	<ul style="list-style-type: none"> • Control parameters e.g. occupational exposure limit values or biological limit values. • Appropriate engineering controls. • Individual protection measures, such as personal protective equipment.
9.	Physical and chemical properties	<ul style="list-style-type: none"> • Appearance (physical state, color etc). • Odor. • Odor threshold. • PH. • Melting point/freezing point. • Initial boiling point and boiling range. • Flash point. • Evaporation rate. • Flammability (solid, gas). • Upper/lower flammability or explosive limits. • Vapor pressure. • Vapor density. • Relative density. • Solubility(ies). • Partition coefficient: n-octanol/water. • Auto-ignition temperature. • Decomposition temperature.
10.	Stability and reactivity	<ul style="list-style-type: none"> • Chemical stability. • Possibility of hazardous reactions. • Conditions to avoid (e.g. static discharge, shock or vibration). • Incompatible materials. • Hazardous decomposition products.
11.	Toxicological information	<p>Concise but complete and comprehensible description of the various toxicological (health) effects and the available data used to identify those effects, including:</p> <ul style="list-style-type: none"> • information on the likely routes of exposure (inhalation, ingestion, skin and eye contact); • Symptoms related to the physical, chemical and toxicological characteristics; • Delayed and immediate effects and also chronic effects from short- and long-term exposure; • Numerical measures of toxicity (such as acute toxicity estimates)

12.	Ecological information	<ul style="list-style-type: none"> • Ecotoxicity (aquatic and terrestrial, where available). • Persistence and degradability. • Bioaccumulative potential. • Mobility in soil. • Other adverse effects.
13.	Disposal considerations	<ul style="list-style-type: none"> • Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.
14.	Transport information	<ul style="list-style-type: none"> • UN number. • UN Proper shipping name. • Transport Hazard class(es). • Packing group, if applicable. • Marine pollutant (Yes/No). • Special precautions which a user needs to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises.
15.	Regulatory information	<ul style="list-style-type: none"> • Safety, health and environmental regulations specific for the product in question.
16.	Other information including information on preparation and revision of the SDS	

DEPARTMENT CIRCULAR NO. 1
Series of 2009

Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Intramuros, Manila

**GUIDELINES ON OCCUPATIONAL SAFETY AND HEALTH IN THE SHIPBUILDING,
SHIP REPAIR AND SHIPBREAKING INDUSTRY**

Pursuant to the rule-making authority of the Secretary of Labor and Employment under Article V of the Labor Code, as amended, and to ensure the protection and welfare of workers employed in the shipbuilding, ship repair and shipbreaking industry, the following Guidelines are hereby issued for the guidance of and compliance by all concerned:

SECTION 1. Objective

The present Guidelines enjoin all parties – government units, employers and workers, OSH practitioners and other concerned sectors– to actively strive to control and eliminate hazards and risks inherent in shipbuilding, ship repair and shipbreaking and related activities.

Through these guidelines, individual or collective measures will be instrumental in preventing work-related accidents and injuries, thereby, safeguarding the health of workers, encourage their motivation and productivity, reduce cost for treatment, rehabilitation or compensation and raise the profitability of establishments.

SECTION 2. Coverage

These guidelines shall apply to all establishments, workplaces, operations and undertakings in the shipbuilding, ship repair and shipbreaking industries.

SECTION 3. Definition of Terms. As used in these guidelines, the following terms shall mean:

1. Shipbuilding – means the construction of a vessel including the installation of machinery and equipment. Work in the shipbuilding includes constructing, assembling, installing, cleaning, painting, outfitting and testing.
2. Ship repair - means any repair of vessel including but not restricted to alterations/ conversions, installations, cleaning, and maintenance
3. Shipbreaking - means any breaking down of a vessel's structure for the purpose of scrapping the vessel, including the removal of equipment or any component part of a vessel.
4. Principal - refers to the owner or CEO / COO / Manager with overall responsibility for the management of establishments and their workplaces, projects, operations and/or activities in the shipbuilding, ship repair and shipbreaking industry.

5. Contractor or sub-contractor - refers to any person or entity engaged in a legitimate contracting or sub-contracting arrangement for the execution of work under the general supervision of the principal in shipbuilding, ship repair and shipbreaking industry.
6. Standards – refers to the Occupational Safety and Health Standards or OSHS which is a set of Rules issued by the Department of Labor and Employment (DOLE) which mandates the adoption and use of appropriate practices, means, methods, operations or processes, and working conditions reasonably necessary to ensure safe and healthful employment.
7. Worker - refers to a person, carrying out activities under the supervision of a principal, contractor and/or sub-contractor.

SECTION 4. Duties and Responsibilities

(1) Each Principal and Contractor / Sub-Contractor covered by the provisions of these Guidelines shall:

- a. furnish his workers a place of employment free from hazardous conditions that are likely to cause death, illness or physical harm to his workers;
- b. give complete job safety instructions to all his workers;
- c. use only approved devices tested by the Occupational Safety and Health Center (OSHC) and equipment tested by TESDA or accredited testing organizations in his workplace;
- d. shall at his own expense, furnish his workers with personal protective equipment by reason of the hazardous work process or environment, chemical or radiological or any other hazards capable of causing injury, or impairment in the function of any part of the body;
- e. register with the DOLE Regional Office where he is located pursuant to Rule 1020 of the OSH Standards and D.O. 18-02 (Contracting and Sub-Contracting Arrangements); and
- f. the principal shall have overall responsibilities in all OSH matters, the contractor shall actively support the OSH policies and programs of the former by implementing applicable OSH programs in their respective workplaces.

(2) Every worker shall:

- a. cooperate with the Principal and Contractor / Sub-Contractor in carrying out the provisions of these Guidelines and the Standards.
- b. report to his supervisor any work hazard that may be discovered in his workplace.
- c. shall make proper use of all safeguards and safety devices furnished in accordance with the provisions of the Standards for his protection and that of others, and shall follow all instructions given by the Principal and Contractor / Sub-Contractor in compliance with the provisions of the Standards.

(3) It shall be the duty of any person, including any builder or contractor or others who conduct business in any establishment or workplace, to comply with the provisions of these Guidelines and the Standards and all regulations of the employer as well as with subsequent issuances of the Secretary.

SECTION 5. OSH Policy and Program

It shall be mandatory for every shipbuilding, ship repair and shipbreaking principal to formulate and implement an OSH policy and program in accordance with the relevant provisions of the Labor Code of the Philippines (LCP) and the Rules of the Occupational Safety and Health Standards (OSHS). Such policy and program shall cover the workplaces, projects and operations under the direct responsibility of the principal as well as related activities of contractors/ sub-contractors.

SECTION 6. OSH Committees

To ensure that the OSH policy and program are being formulated and implemented in line with established regulations and with the requirements of the shipbuilding, ship repair and shipbreaking operations, an OSH Committee shall be established according to Rule 1040 of the OSH Standards with the following membership:

- a) CEO or Project Manager as the chairperson ex officio;
- b) Safety and Health Officers;
- c) Safety and health representatives from each sub-contractor;
- d) Occupational Health Physicians, Nurses and First Aiders; and
- e) Workers' representatives including union members if organized

Members of the Safety and Health Committee shall, as far as practicable, be present at the workplaces whenever work is being undertaken.

Each contractor/ sub-contractor is required to have his/her own safety and health committee.

SECTION 7. Cost for Implementing OSH Program and other Activities

The cost of implementing OSH Management System and OSH Program for the shipbuilding, ship repair or shipbreaking workplaces shall be provided by the employer's principal and/or contractor/ sub-contractor provided that said costs shall be a separate pay item duly quantified in the project's contract documents.

SECTION 8. Safety Personnel

Principals and contractors/ sub-contractors shall employ Safety and Health Personnel as follows:

- a. a full time safety officer, with overall responsibility for the management of the OSH Program; who shall monitor and inspect health and safety aspect of the workplaces and assist government inspectors in the conduct of inspection and accident investigations;

- b. depending on the size of the workforce at a given workplace, additional Safety and Health Officer/s shall be designated under the direct supervision of the Safety and Health Officer of the principal; and
- c. one additional Safety and Health Officer must be assigned for every additional ten (10) units of heavy equipment assigned to the workplace.

Contractors and sub-contractor shall provide for Safety Officer/s at the workplaces under their direct responsibility.

All full-time Safety and Health Officers must be accredited by the DOLE Regional Office concerned.

SECTION 9. Emergency Occupational Health Personnel and Facilities

The following emergency health personnel shall be present at individual workplace, supported by adequate medical supplies, equipment and facilities:

- a. a certified first-aider for fifty (50) workers or less;
- b. a full-time registered nurse for more than fifty (50) but less than two hundred (200) workers;
- c. a full-time registered nurse, a part-time physician and a dentist, and an emergency clinic for more than hundred (200) but less than three hundred (300) workers; and
- d. a full-time registered nurse, a full-time physician, a dentist and an infirmary or emergency hospital with one (1) bed capacity for more than three hundred (300) workers. In addition, there should be one (1) bed capacity for every one hundred (100) workers in excess of three hundred (300) workers.

Where only a treatment room is available, in case of emergency, workers shall have access to the nearest medical/ dental clinic or a medical/ dental clinic located within five (5) kilometer-radius from the workplace.

SECTION 10. Communicating Safety and Health Policies and Programs

The principal and contractor/ sub-contractor shall implement a communication plan for hazard and risk prevention at the workplace.

SECTION 11. Building Skills on OSH through Training Programs

Principals and contractors/ sub-contractors shall be required to undergo appreciation/ awareness courses on OSH.

All workers, supervisors and members of the safety and health committees shall be adequately instructed and trained on the measures available for the prevention, control and protection against hazards and risks.

Every worker before employment in shipbuilding, ship repair and shipbreaking shall undergo a safety and health awareness seminar conducted by the OSHC, and/ or safety training organizations (STOs) accredited by the DOLE Regional Office in the language or dialect understood by the workers.

Specialized instruction and training should be given to:

- a) drivers and operators of lifting appliances, transport, earth-moving and materials - handling equipment and machinery or any equipment of specialized or dangerous nature;
- b) workers engaged in the erection or dismantling of scaffolds;
- c) workers working at heights;
- d) workers handling explosives or engaged in blasting operations;
- e) workers working in compressed air, cofferdams, and caissons;
- f) workers engaged in the erection of prefabricated parts of steel structural frames and tall chimneys, and in concrete work, form work and other such work;
- g) workers handling hazardous substances and materials;
- h) workers as riggers and signalers;
- i) workers working in confined space;
- j) workers engaged in hot works; and
- k) other workers in critical operations and occupations

SECTION 12. Safety Concerns of Heavy Equipment

All heavy equipment and operators assigned at the shipbuilding, ship repair and shipbreaking workplaces must be tested and certified in accordance with a standard trade test prescribed by the Technical Education and Skills Development Authority (TESDA) in coordination with its accredited testing organization/s.

SECTION 13. Reporting on Safety and Health

Principals shall be required to submit a monthly shipbuilding, ship repair and shipbreaking safety and health report to the nearest DOLE Office. The report shall include a monthly summary of all safety and health committee meeting agreements, a summary of all accident investigations/ reports and periodic hazards assessment with the corresponding remedial measures/ action for each hazard, using prescribed administrative forms.

In case of any dangerous occurrence or major accident resulting in death or permanent total disability, the concerned employer shall initially notify the DOLE Regional Office within twenty-four (24) hours from occurrence. After the conduct of an investigation by the concerned Safety and Health Officer, the principal shall report all permanent total disabilities to DOLE Regional Office on or before the 20th of the month following the date of occurrence using the DOLE/BWC/HSD-IP-6 form.

SECTION 14. Compliance with Applicable OSH Standards

All principals and contractors/ sub-contractors shall comply with applicable rules of the OSH Standards and its implementing guidelines including the Technical guidelines on OSH in the shipbuilding, ship repair and shipbreaking industry.

SECTION 15. Violations and Penalties

As circumstances may warrant, and according to its findings, following due process, any act or omission committed by shipbuilding, ship repair and shipbreaking principals and contractors/ sub-contractors in violation of labor standards, safety rules and regulations and other pertinent policies shall be subject to the applicable penalties provided for in the Labor Code of the Philippines.

In cases of imminent danger situations, the DOLE Regional Director shall issue a cease and desist order pursuant to the guidelines specified under Rule 1012.02 of the OSHS and other pertinent issuances for stoppage of operation or for other appropriate action to abate the danger.

SECTION 16. Enforcement

The Labor Inspectorate of the DOLE Regional Offices shall be responsible for the enforcement and monitoring of the provisions of this Circular.

SECTION 17. Effect on Existing Issuances and Agreements:

This issuance shall serve as policy and procedural guidelines for this Department and its agencies in the administration and enforcement of applicable labor and social legislations and their implementing regulations.

Nothing herein shall be construed to authorize diminution or reduction of benefits being enjoyed by employees at the time of issuance hereof.

SECTION 18. Effectivity

This circular shall take effect fifteen (15) days after its publication in a newspaper of general circulation.


MARIANITO D. ROQUE
Secretary

Signed : 24 March 2009

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DEPARTMENT ORDER NO. 102-10
Series of 2010

Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Intramuros, Manila

GUIDELINES FOR THE IMPLEMENTATION OF HIV AND AIDS PREVENTION AND CONTROL IN THE WORKPLACE PROGRAM

To strengthen the workplace response in implementing the provisions of Republic Act 8504 otherwise known as The Philippine AIDS Prevention and Control Act of 1998 and its Implementing Rules and Regulations, and the DOLE National Workplace Policy, in collaboration with the Inter-Agency Committee (IAC) on STD, HIV and AIDS in the Workplace, the following guidelines are issued to provide directions for employers, employees and program implementers in the workplace.

I. COVERAGE

The guideline shall apply to all workplaces and establishments in the private sector.

II. FORMULATION OF WORKPLACE POLICY AND PROGRAM

- A. It is mandatory for all private workplaces to have a policy on HIV and AIDS and to implement a workplace program in accordance with the RA 8504 and its Implementing Rules and Regulations, the goals of the DOLE National Workplace Policy, the provisions of the Labor Code and other international standards (e.g. ILO Code of Practice on HIV and AIDS and the World of Work).
- B. The HIV and AIDS workplace policy and program may be a separate policy and program or integrated into existing occupational safety and health policy and program of the establishment.
- C. There shall be collaborative efforts from the management and the workers representatives in the development and the implementation of the policy and program.
- D. In establishment/workplace where there exists an organization of workers/workers' union, the policy and program may be included as provisions of the Collective Bargaining Agreements.
- E. The DOLE Inter-Agency Committee chaired by the Occupational Safety and Health Center shall assist the workplace / establishment in the formulation and implementation of HIV AND AIDS Prevention and Control Policy and Program. The DOLE Regional Offices shall also serve as technical advisers in their respective areas on matters concerning HIV and AIDS prevention and control in the workplace.

III. COMPONENTS OF THE HIV AND AIDS PREVENTION AND CONTROL WORKPLACE POLICY AND PROGRAM

Workplace policy and program shall include, among others, the following:

A. Advocacy, Information, Education and Training

1. All workers shall be provided with a standardized basic information and education on HIV and AIDS.
2. Employers shall be responsible for providing appropriate, accurate and updated information on HIV and AIDS. Topics for information and education activities shall include:
 - a. Magnitude of HIV and AIDS Epidemic
 - b. The nature of HIV and AIDS, its mode of transmission and causes
 - c. Ways to prevent HIV infection, to include responsible sexual behavior and condom promotion and/ or provision
 - d. Diagnosis, care, support and treatment of HIV and AIDS
 - e. Impact of AIDS on individual, family, community and workplace
 - f. Workplace policy and program on HIV and AIDS of the establishment
 - g. Salient features of national laws and policies
 - i. Republic Act 8504 or the Philippine AIDS Prevention and Control Act of 1998 and its Implementing Rules and Regulations (IRR), with emphasis on the provisions that concern workers and the workplace
 - ii. The DOLE National HIV AND AIDS Workplace Policy and its goals
3. Employers are encouraged to extend their HIV and AIDS advocacy, information, education and training activities to their contractors and supply chain, workers' families, the community and other establishments, as part of their Corporate Social Responsibility (CSR) and for strengthening the multi-sectoral partnership in the prevention and control of HIV and AIDS.
4. The workplace education package on HIV and AIDS based on the curriculum developed by the IAC shall be used extensively to intensify the information and education drive on HIV and AIDS. The module may be expanded based on the enterprise's need.
5. Program implementers, occupational safety and health personnel, training officers, human resource officers, employers, workers, DOLE trainers, labor standards enforcers shall continuously receive education and training on HIV and AIDS.

B. Social Policy

HIV and AIDS Workplace Policy and Program shall include:

1. Non-discriminatory Policy and Practices
 - a. Workers shall not be discriminated against, from pre to post-employment, including hiring, promotion or assignment, regardless of the HIV status, be it actual, perceived or suspected with HIV infection.
 - b. Workers shall not be terminated from work if the basis is the actual, perceived or suspected HIV status.

2. Confidentiality
 - a. Access to personal data relating to a worker's HIV status should be bound by the rules of confidentiality consistent with the provisions of RA 8504 and the ILO Code of Practice.
 - b. Job applicants or workers must not be asked to disclose HIV-related personal information. Co-workers must not be obliged to reveal such personal information about fellow workers.
 - c. HIV and AIDS-related information of workers should be kept strictly confidential and kept only on medical files, whereby access to information should be strictly limited to medical personnel or if legally required in accordance with the provisions of RA 8504 and its IRR.
3. Work Accommodation and Arrangement
 - a. Employers should take measures to reasonably accommodate the workers with AIDS-related illnesses.
 - b. Through agreements made between the management and workers, work accommodation measures to support workers with HIV and AIDS are encouraged through flexible leave arrangements, rescheduling of working time and arrangement for return to work.

C. Diagnosis, Treatment and Referral for other services

1. If feasible, establishments shall provide preventive, diagnostic and treatment services for sexually transmitted infections to minimize the risk of HIV infection.
2. If preventive, diagnostic, treatment and other health services for STI are not available in the establishment, management shall provide access to these services. A referral mechanism shall be developed for workers to access the services of the nearest social hygiene clinics, and/ or private and government health service providers, and positive community/HIV support groups.
3. Voluntary Confidential Counseling and Testing (VCCT) for HIV
 - a. Compulsory HIV testing as a precondition to employment, and/ or provision of any kind of service, is unlawful.
 - i. Management shall encourage positive health-seeking behavior which shall include VCCT
 - ii. Management shall provide the referral procedure for VCCT and the list of service providers. (See Annex DOH and HIV support groups)

IV. ROLES AND RESPONSIBILITIES OF EMPLOYERS AND WORKERS

A. Employers Responsibilities

1. Each employer, together with workers / labor organizations shall develop, implement, evaluate and fund HIV and AIDS prevention and control in the workplace policy and program.
2. Each employer, together with workers/ labor organizations, company focal personnel for human resources, safety and health personnel, shall address all aspects of implementing the workplace HIV and AIDS prevention and control in the workplace policy and program.

3. Each employer shall ensure that their company policy and program shall be made known to all workers.
4. Each employer shall ensure that their policy and program, is in adherence to existing government legislations and guidelines, including provision of leaves, benefits and insurance.
5. Each employer shall provide information, education and training on HIV and AIDS for its workforce; if not available within the establishment, then provide access to information.
6. Each employer shall maintain confidentiality of all information and records pertaining to HIV and AIDS status of their workers.
7. Each employer shall not force or condone forced disclosure of HIV status of workers.
8. Each employer shall ensure non-discriminatory practices in the workplace.
9. Each employer, together with the company focal personnel for human resources and safety and health, shall provide appropriate personal protection equipment to prevent HIV exposure, especially for those handling blood and other body fluids.
10. Each employer shall continue to improve the program by networking with government and organizations promoting HIV and AIDS prevention and control.

B. Workers Responsibilities

Workers, as their individual responsibility, shall contribute to the formulation and abide by and support the company HIV and AIDS Prevention and Control Policy and Program.

1. Labor unions, federation, workers organization/association are required to take an active role in educating and training their members on HIV and AIDS including its prevention and control. The IEC program must also aim at promoting and practicing a healthy lifestyle with emphasis on high risk behavior and other risk factors that expose workers to increased risk of HIV infection.
2. Workers shall practice non-discriminatory acts against co-workers.
3. Workers and workers' organizations should not have access to personnel data relating to a worker's HIV status. The rules of confidentiality should apply in carrying out union and organization functions.
4. Workers shall comply with universal precaution and the preventive measures.
5. Workers living with HIV may be encouraged to inform the health care provider such as company physician, on their HIV status, that is, if their work activities may increase the risk of HIV infection and transmission or put the HIV positive at risk for aggravation.
6. Workers are enjoined to share information on prevention and control of HIV and AIDS to their families and communities.

V. IMPLEMENTATION AND MONITORING

- A. Within the establishment, the implementation of the policy and program shall be monitored and evaluated periodically; the safety and health committee or its counterpart shall be tasked for this purpose.
- B. The Department of Labor and Employment (DOLE) through its Regional offices, in collaboration with the Department of Health (DOH), Department of Interior and Local Government (DILG) and local government units (LGUs) shall oversee and monitor the HIV and AIDS Prevention and Control in the Workplace Program for private establishments and dissemination of information on HIV and AIDS Prevention and Control in the Workplace Program.
- C. The Occupational Safety and Health Center (OSHC), members of the IAC on HIV and AIDS and the Regional AIDS Assistance Teams (RAATs) shall provide preventive services and technical assistance in the implementation of the HIV and AIDS in the workplace program.
- D. The Bureau of Working Conditions (BWC) through the DOLE Regional Offices shall enforce these Guidelines, related OSH Standards and other related policies and legislations.

VI. CONSEQUENCES OF POLICY AND PROGRAM VIOLATIONS SHALL BE SUBJECT TO THE PERTINENT PROVISIONS OF RA 8504.

VII. EFFECTIVITY

This Order shall be effective fifteen days after publication in a newspaper of general circulation.

DEPARTMENT ADVISORY NO. 05
Series of 2010

Republic of the Philippines
DEPARTMENT OF LABOR AND EMPLOYMENT
Intramuros, Manila

GUIDELINES FOR THE IMPLEMENTATION OF A
WORKPLACE POLICY AND PROGRAM ON HEPATITIS B

Hepatitis B continues to be a major public health concern in the Philippines. Because it is transmitted through blood and body fluids, Hepatitis B is not spread through usual workplace activities. The job of most workers does not confer a risk for transmission of Hepatitis B. However, there are certain occupations which pose a higher risk of transmission of Hepatitis B because it involves exposure to potentially contaminated blood and body fluids. These would include occupations in the healthcare setting and other workers whose occupation involves the potential for exchange of bodily fluids.

Currently, many job applicants who are Hepatitis B surface antigen (HBsAg) positive are declared unfit to work without appropriate medical evaluation and counseling. These individuals are otherwise healthy and can be gainfully employed. Because the workplace is part of the larger community of Filipinos fighting the Hepatitis B epidemic, strategies need to be implemented to reduce the risk of transmission of Hepatitis B in the workplace and eliminate discrimination against Hepatitis B positive workers.

I. COVERAGE

The guideline shall apply to all workplaces in the private sector including their supply chain.

II. FORMULATION OF WORKPLACE POLICY AND PROGRAM

- A. It is mandatory for all private workplaces to have a policy on Hepatitis B and to implement a workplace program.
- B. The Hepatitis B workplace policy and program may be separate from or integrated into existing occupational safety and health policy and program of the establishment, such as the Family Welfare Program, Labor Management Cooperation Program or other related programs.
- C. The policy should be rights-based, incorporating human rights standards and principles.
- D. There shall be collaborative efforts from management and worker representatives in the development and implementation of the policy and program.
- E. In organized workplaces, the policy and program shall be included as provisions of the Collective Bargaining Agreements.
- F. The DOLE in coordination with DOH and/or partners, shall assist the workplace in the formulation and implementation of Hepatitis B Workplace Policy and Program.

III. COMPONENTS OF THE HEPATITIS B WORKPLACE POLICY AND PROGRAM

The workplace policy and program on Hepatitis B shall cover all workers regardless of their employment status and shall include among others, the following:

A. Advocacy, Information, Education and Training

1. All workers shall be provided with basic information and education on Hepatitis B. Employers shall be responsible for providing appropriate, accurate and updated information. Standardized basic information package shall be developed by DOLE and its partners.

Topics for information and education activities shall include:

- a. Magnitude of Hepatitis B Epidemic
 - i. Hepatitis B as a disease
 - ii. Transmission
 - iii. Diagnosis
 - iv. Treatment and Referral
 - b. Prevention of Hepatitis B infection
 - c. Information on basic human rights and rights of workers
 - d. Impact of illness on individual, family, community and workplace
 - e. Workplace policy and program on Hepatitis B
 - f. Salient features of national laws and policies related to Hepatitis B and blood-borne pathogens
2. Employers shall extend advocacy, information, education and training activities to their contractors and supply chain, workers' families, the community and other establishments, as part of their Corporate Social Responsibility (CSR) and to strengthen multi-sectoral partnerships in the prevention and control of Hepatitis B.

B. Preventive Strategies

Prevention of Hepatitis B infection in the workplace shall be achieved through the implementation of the following strategies:

1. All establishments are encouraged to provide Hepatitis B immunization for all its workers. For those occupations with a conceivable risk of Hepatitis B transmission in the workplace such as health care workers and other workers whose occupation involves the potential for exchange of bodily fluids, Hepatitis B vaccination is required.
2. Measures to improve working conditions, such as adequate hygiene facilities, containment and proper disposal of infectious and potentially contaminated materials shall be provided.
3. Personal Protective Equipment shall be made available for all workers in high risk occupations at all times.

4. Workers should be given training and information on adherence to standard or universal precautions in the workplace.

All health care-related establishments and establishments whose workers are exposed to potentially contaminated blood or body fluid while in the workplace shall adhere to protocols developed or endorsed by the DOH.

C. Social Policy

1. Non-discriminatory Policy and Practices

- a. There shall be no discrimination of any form against workers on the basis of their Hepatitis B status consistent with international agreements on non-discrimination ratified by the Philippines (ILO C111). Workers shall not be discriminated against, from pre to post-employment, including hiring, promotion or assignment, because of their Hepatitis B status.
- b. Individuals found to be Hepatitis B positive shall not be declared unfit to work without appropriate medical evaluation and counseling.
- c. Workers shall not be terminated on the basis of the actual, perceived or suspected Hepatitis B status.
- d. Workplace management of sick employees shall not differ from that of any other illness. Persons with Hepatitis B-related illnesses should be able to work for as long as medically fit.

2. Confidentiality

Job applicants and workers shall not be compelled to disclose their Hepatitis B status and other related medical information. Co-workers shall not be obliged to reveal any personal information about fellow workers. Access to personal data relating to a worker's Hepatitis B status shall be bound by the rules of confidentiality and shall be strictly limited to medical personnel or if legally required.

3. Work Accommodation and Arrangement

- a. Employers shall take measures to reasonably accommodate workers who are Hepatitis B positive or with Hepatitis B - related illnesses.
- b. Through agreements made between management and workers' representatives, measures to support workers with Hepatitis B are encouraged through flexible leave arrangements, rescheduling of working time and arrangement for return to work.

D. Screening, Diagnosis, Treatment and Referral to Health Care Services

1. Workplaces shall establish a referral system and provide access to diagnostic and treatment services for its workers for appropriate medical evaluation/monitoring and management.

2. Adherence to the guidelines for health care providers on the evaluation of Hepatitis B positive workers is highly encouraged.
3. Screening for Hepatitis B as a pre-requisite to employment shall not be mandatory.

E. Benefits and Compensation

A worker who contracts Hepatitis B infection in the performance of his/her duty is entitled to sickness benefits under the Social Security System and employees compensation benefits under PD 626.

IV. ROLES AND RESPONSIBILITIES OF EMPLOYERS AND WORKERS

A. Employers Responsibilities

1. Each employer, together with workers/ labor organizations, company focal personnel for human resources, safety and health personnel shall develop, implement, monitor and evaluate the workplace policy and program on Hepatitis B.
2. Each employer shall ensure that their company policy and program is adequately funded and made known to all workers.
3. Each employer shall ensure that their policy and program adheres to existing legislations and guidelines, including provisions on leaves, benefits and insurance.
4. Each employer shall provide information, education and training on Hepatitis B for its workforce consistent with the standardized basic information package developed by the Hepatitis B TWG.; if not available within the establishment, then provide access to information.
5. Each employer shall ensure non-discriminatory practices in the workplace.
6. Each employer, together with the company focal personnel for human resources and safety and health, shall provide appropriate personal protective equipment to prevent Hepatitis B exposure, especially for those workers exposed to potentially contaminated blood or body fluid.
7. Each employer together with workers/ labor organizations shall jointly review the policy and program for effectiveness and continue to improve these by networking with government and organizations promoting Hepatitis B prevention.
8. Employers shall ensure confidentiality of the health status of its workers, including those with Hepatitis B.
9. Employers shall ensure that access to medical records is limited to authorized personnel.

B. Workers Responsibilities

Workers, as their individual responsibility, shall contribute to the formulation and abide by and support the company Hepatitis B Workplace Policy and Program.

1. Labor unions, federations, workers organizations and associations are required to undertake an active role in educating and training their members on Hepatitis B prevention and control. The IEC program must also aim at promoting and practicing a healthy lifestyle with emphasis on avoiding high risk behavior and other risk factors that expose workers to increased risk of Hepatitis B infection, consistent with the standardized basic information package developed by the Hepatitis B TWG.
2. Workers shall practice non-discriminatory acts against co-workers.
3. Workers and workers' organizations shall not have access to personnel data relating to a worker's Hepatitis B status. The rules of confidentiality shall apply in carrying out union and organization functions.
4. Workers shall comply with universal precaution and the preventive measures.
5. Workers with Hepatitis B may inform the health care provider such as company physician, on their Hepatitis B status, that is, if their work activities may increase the risk of Hepatitis B infection and transmission or put the Hepatitis B positive at risk for aggravation.

V. IMPLEMENTATION AND MONITORING

- A. Within the establishment, the implementation of the policy and program shall be monitored and evaluated periodically; the safety and health committee or its counterpart shall be tasked for this purpose.
- B. The Department of Labor and Employment (DOLE) through its Regional offices, in collaboration with the Department of Health (DOH), Department of Interior and Local Government (DILG) and local government units (LGUs) shall oversee and monitor the Hepatitis B Workplace Policy and Program for private establishments and dissemination of information on Hepatitis B Prevention and Control in the Workplace Program.
- C. The Bureau of Working Conditions (BWC) through the DOLE Regional Offices shall encourage compliance to the Guidelines, related OSH Standards and other related policies and legislations.

VI. EFFECTIVITY

This Order shall be effective fifteen days after publication in a newspaper of general circulation.


ROSALINDA DIMAPILAS-BALDOZ
Secretary