

OCCUPATIONAL SAFETY AND HEALTH

Key principles in Occupational Safety and Health

Core Occupational Safety and Health (OSH) principles

Certain basic principles of OSH are as follows:

- All workers have rights.
- Occupational safety and health policies must be established and enforced.
- A national system for occupational safety and health must be established.
- National programmes on occupational safety and health must be formulated.
- Occupational safety and health programmes and policies must aim at both prevention and protection.
- Continuous improvement of occupational safety and health must be promoted.
- Compensation, rehabilitation and curative services must be made available to workers who suffer occupational injuries, accidents and work related diseases.
- Education and training are vital components of safe, healthy working environments.

Rights and Duties

The responsibilities of governments, employers and workers should be seen as complementary and mutually reinforcing in the common task of promoting occupational safety and health to the greatest extent possible within the constraints of national conditions and practice.

- **Worker's right:** The protection of life and health at work is a fundamental workers' right. This implies a right to adequate knowledge, and a right to stop work in the case of imminent danger to safety or health.
- **Employers' responsibilities:** Because occupational hazards arise at the workplace, it is the responsibility of employers to ensure that the working environment is safe and healthy. This means that they must prevent, and protect workers from, occupational risks.
- **Governments' duties:** Governments are responsible for drawing up occupational safety and health policies and making sure that they are implemented. Policies will be reflected in legislation, and legislation must be enforced. But legislation cannot cover all workplace risks. Policies are more likely to be supported and implemented if employers and workers, through their respective organizations, have had a hand in drawing them up.

National Policy on Occupational Safety and Health

Key features of a national policy on occupational safety and health:

- The formulation of the policy should reflect tripartite participation, i.e. there should be inputs from employers' and workers' organizations as well as from government and others involved in the area of occupational safety and health.
- The policy should be consistent with national development objectives and policies as a whole.
- The policy should promote the right of workers to decent, safe and healthy working conditions and environment.
- The policy should include ways of promoting adequate public awareness and eliciting political endorsement at the highest level of government.
- The policy should promote the development of a national preventive safety and health culture that includes information, consultation and training.
- The policy should include a plan for mobilizing the necessary institutional and financial resources.
- Coordination among all concerned institutions should be fostered as an inherent element of the policy.
- All available means of action should be used consistently.
- The policy should encourage voluntary compliance at enterprise level.
- The policy should be reviewed regularly.

Policy instruments

National laws, labour codes and regulations

Appropriate legislation and regulations, together with adequate means of enforcement, are key policy instruments for the protection of workers. They form a basis for efforts to improve working conditions and the working environment. Labour legislation lays down minimum standards which are compulsory and applicable to everyone. Standards, specifications and codes of practice issued by national standards organizations or professional or specialized institutions are generally not binding, but in some cases they have been given the force of law by the competent authority.

Policy coordination

In order to ensure coherence in formulating and applying the national OSH policy, there must be coordination between the various authorities and bodies designated to implement the policy. There should also be close cooperation between public authorities, representative employers' and workers' organizations, and any other concerned bodies, with a view to making arrangements that are appropriate to national conditions and practice.

The main purposes of Policy coordination should be to:

- Fulfill the requirements regarding policy formulation, implementation and periodic review.

- Coordinate efforts to carry out the functions assigned to the competent authority.
- Coordinate related activities that are undertaken nationally, regionally or locally by public authorities, employers and their organizations, workers' organizations and representatives, and other individuals or bodies concerned; and
- Promote the exchange of views, information and experience nationwide, within particular industries, or in specific branches of economic activity.

Education and training

Education and training provide individuals with the basic theoretical and practical knowledge required to carry out their trade or occupation successfully and to fit into the working environment. Because of the importance of occupational safety and health, measures should be taken to include these subjects in education and training at all levels in all trades and professions, including higher technical, medical and professional education. OSH training should meet the needs of all workers, and should be promoted in a manner that is appropriate to national conditions and practice.

Occupational Health Services

General Considerations

Occupational health services are defined as services entrusted with essentially preventive functions. It involves activities for the protection and promotion of workers' health and for the improvement of working conditions and environment carried out by occupational safety and health professionals as well as other specialists, both within the enterprise and without, as well as workers' and employers' representatives and the competent authorities.

Concept of occupational health

In relation to work, "health" does not merely mean the absence of disease or infirmity; it also includes the physical and mental elements affecting health which are directly related to safety and hygiene at work.

Functions of an occupational health service

The main functions of an occupational health service are to:

- Identify and assess the risks from health hazards in the workplace;
- Watch for factors in the work environment and working practices that may affect workers' health, such as sanitary installations, canteens and housing provided by the employer;
- Advice on work planning and organization, including workplace design and the choice, maintenance and condition of machinery, and other equipment and substances used in work;
- Participate in the development of programmes for the improvement of work practices;
- Collaborate in testing new equipment and evaluating its health aspects;

- Advise on occupational health, safety and hygiene, and on ergonomics and protective equipment;
- Monitor workers' health in relation to work;
- Try to make sure that work is adapted to the worker;
- Contribute to vocational rehabilitation;
- Collaborate in providing training and education in occupational health and hygiene, and ergonomics;
- Organize first aid and emergency treatment;
- Participate in the analysis of occupational accidents and occupational diseases.

Preventive and Protective measures:

General considerations

The incidence of accidents and work-related diseases and injuries in most occupational sectors is still regrettably high; there is therefore an urgent need for preventive and protective measures to be instituted at workplaces in order to guarantee the safety and health of workers. Occupational accidents and diseases not only cause great pain, suffering and death to victims, but also threaten the lives of other workers and their dependents.

Occupational accidents and diseases also result in:

- Loss of skilled and unskilled but experienced labour.
- Material loss, i.e. damage to machinery and equipment well as spoiled products.
- High operational costs through medical care, payment of compensation, and repairing or replacing damaged machinery and equipment.

Work practices and organizational methods:

Some organizational methods for prevention and protection of hazards are:

- Reduce the source of the hazard, so that risks are confined to certain areas where engineering control measures can be applied effectively;
- Adopt adequate work practices and working-time arrangements so that workers' exposure to hazards is effectively controlled
- Minimize the magnitude of exposure, the number of workers exposed and the duration of exposure, e.g. carry out noisy operations at night or during the weekend, when fewer workers are exposed.

Personal protective equipment

When none of the above approaches is feasible, or when the degree of safety achieved by them is considered inadequate, the only solution is to provide exposed persons with suitable personal protective equipment and protective clothing. Such equipment may be heavy, cumbersome and uncomfortable, and may restrict movement. Employers should consult workers or their representatives on suitable personal protective equipment and clothing, having regard to the type of work and the type and level of risks. Furthermore, when hazards cannot be otherwise prevented or controlled, employers should provide and maintain

such equipment and clothing as are reasonably necessary, without cost to the workers. The employer should provide the workers with the appropriate means to enable them to use the individual protective equipment. Indeed, the employer has a duty to ensure its proper use.

Technological change

Technological progress can play an important role in improving working conditions and job content, but it can also introduce new hazards. Great care should therefore be taken in both the choice and the international transfer of technology in order to avoid potential hazards and ensure that the technology is adapted to local conditions. Management should consult with workers' representatives whenever new technology is introduced. The hazards associated with technologies (equipment, substances and processes) used at the work site must be identified and effective measures must be taken to eliminate or control them. The introduction of new technology should be accompanied by adequate information and training. Furthermore, potentially dangerous machinery, equipment or substances should not be exported without adequate safeguards being put in place, including information on safe use in the language of the importing country. It is the duty of the governments of importing countries to review national legislation to make sure that it includes provisions to stop the import of technology detrimental to occupational safety and health or working conditions.

Protection of the general environment

The importance of protecting workers, the general public and the environment from materials containing hazardous substances cannot be overemphasized. To this end, the competent authority should ensure that criteria consistent with national or international regulations regarding disposal of hazardous waste are established. Procedures to be followed in the disposal and treatment of hazardous waste products should also be established, with a view to ensuring the safety of workers, and the protection of the general public and the environment. Employers must therefore dispose of waste containing hazardous materials, such as asbestos, in a manner that does not pose a health risk to the workers concerned, including those handling the waste material, or to the general population. Furthermore, it is up to the competent authority and employers to take measures to prevent pollution of the general environment by dust or other pollutants released from the work site.

SPEED AND VELOCITY

Distance

The length of actual path travelled by an object during motion in a given interval of time is called the distance travelled by the object.

Distance is a scalar quantity. It means distance has only magnitude not direction. Distance travelled never decreases. The SI unit of distance is meter.

$$\text{Distance} = \text{Speed} \times \text{Time}$$