



International Labour Office, Geneva

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Printed by ATAR S. A., Geneva, Switzerland - June 1971

THE ILO AND SAFETY AND HEALTH OF WORKERS



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A Second Half-Century Begins in the Service of Social Progress

The story of the International Labour Organisation is, in some ways, the story of the twentieth century. It is the story of how man has tried to use his knowledge and skills to bring about a better way of life for millions. But it is also the story of other millions, still caught in the grip of want, ignorance and despair: a grip that the ILO, co-operating with governments, workers' and employers' groups and with other international organisations, is striving to break.

The ILO's story began in 1919, but it has its roots deep in the social conscience of the nineteenth century. By the end of the First World War, it was recognised that efforts were needed on a world-wide scale to combat the harmful effects of industrialisation, and that there could be no peace without social and economic justice for the working people of the earth. As a result the ILO was created by the Versailles Peace Treaty, to set international standards for workers' protection and to provide a body of knowledge on the world's labour problems. Over the years, a system of standards was built up which provide guidelines for the legislators of the world in such matters as working conditions, social security and the protection and promotion of certain basic human rights.

In the years following the Second World War, the vast social and economic

needs of the developing nations have become a major preoccupation of the ILO, as they have for the United Nations and the other specialised agencies. Today, hundreds of ILO experts are at work in all parts of the world, assisting governments in such fields as vocational training and management development, helping them to set up co-operatives, improve social security systems, develop small industries and other opportunities for rural populations.

The ILO's original membership of 45 countries in 1919 had grown to 121 at the beginning of 1971.

These fifty years of service were crowned in 1969 with the award of the Nobel Peace Prize to the ILO.

Now in its second half-century, the ILO has launched the World Employment Programme, designed to help countries provide productive employment and training opportunities for their swelling populations.

Much has been achieved in the pursuit of social justice; much remains to be done. The social ills of the present are not the same as those of 1919, but they are no less evil. In the future, as in the past, the ILO will concentrate its efforts on trying to give working people everywhere the opportunity to provide a decent livelihood for themselves, and a better future for their children, in dignity, peace and freedom.

INTRODUCTION

One of the tasks set to the International Labour Organisation in the preamble to its Constitution is "the protection of the worker against sickness, disease and injury arising out of his employment".

The present booklet describes the different stages of the activities of the Organisation during the last 50 years for the promotion of occupational safety and health.

Such activities cannot be carried on effectively without the co-operation of all the parties concerned, but precisely because of its tripartite structure which comprises governments, employers and workers, the ILO possesses the necessary resources for its activities.

The International Labour Office, which is the permanent secretariat of the International Labour Organisation, considers that safety and health are indivisible, and in its activities it treats them as two aspects of the same question, i.e. the protection of workers.

The work of the ILO is designed to meet the practical needs of the States Members of the Organisation, employers and workers.

Today, occupational safety and health activities are concerned not only with the prevention of occupational accidents and diseases but also with the improvement of the workers' safety and health in industrial and social life, in particular by making work more humane as a result of better environmental conditions at workplaces.

The different kinds of activity that the ILO carries on in the field of occupational safety and health may be summarily classified as follows:

- standard setting and research;
- technical co-operation, especially with developing countries;
- collaboration with other international organisations;
- collection and dissemination of information.

STANDARD SETTING AND RESEARCH

General safety and health

International Standards

In the field of regulation, the activities of the ILO take on various forms that differ fundamentally from the legal point of view.

International Labour Conventions are instruments that when ratified by a State oblige that State to bring its legislation into conformity with them. Recommendations on the other hand are essentially guides to national action.

In the course of its 50 years of existence the ILO has adopted 136 Conventions and 144 Recommendations. Many of them have a more or less close bearing on matters of occupational safety and health. A list of these will be found on page 54-55.

The ILO has also drawn up model codes and codes of practice on many aspects of occupational safety and health. It is in the nature of these instruments to enter into precise practical detail so that they can be used as they stand or serve as a basis for the framing of international or national regulations and collective agreements. Examples are the model codes of safety regulations, the codes of practice relating to safety and health, the guiding principles laid down in resolutions of the International Labour Conference and in resolutions and conclusions of industrial committees, and the texts adopted by meetings of experts.

Research in Relation to Standard Setting

The research work undertaken by the International Labour Office is a basis for the compilation of detailed documentation on the law and practice in different countries in matters of occupational safety and health, on modern industrial techniques, and on progress in workers' protection. The body of information obtained is used by experts in the preparation of Conventions, Recommendations and the other documents mentioned above.

Inspection

No effective safety and health measures can be introduced nor maintained without the existence of a suitable inspection service. Such a service advises

employers and workers on the technical problems posed by safety and health requirements, supervises and enforces the application of the legal provisions and takes part in all the other activities aimed at preventing accidents and occupational diseases.

The entire field of safety and health inspection is a complex one and must be viewed in the larger context of labour inspection and labour administration which cover other aspects of the employer-worker relationship. The importance attached to this subject by the ILO can best be seen from the fact that some of the earliest instruments of the Organisation referred to it and that this interest has been sustained throughout.

Thus, Recommendation No. 5 of 1919 advocated the establishment of government services to safeguard the health of the workers, while that of 1923 (No. 20) set out the general principles for the organisation of labour inspection systems; other Recommendations dealt with specific occupations. Recommendation No. 28 of 1926 concerned itself with the general principles for the inspection of the conditions of work of seamen and covered, among other subjects: scope and organisation of inspection, inspection reports, and the rights, powers and duties of inspectors. In serious cases, where the health or safety of the crew is endangered, it recommended that the inspection authorities be empowered to prohibit a ship from leaving port until the necessary measures have been taken to comply with the law. It further recommended that annual reports of the inspection authorities should include information on the number, nature and causes of accidents occurring to seamen during their work. Recommendation No. 54 of 1937 concerned itself with inspection in the building industry. The most important instrument in the field of inspection is the Convention No. 81 on labour inspection in industry and commerce, adopted in 1947.

Countries ratifying the Convention undertake to maintain a system of labour inspection in industrial workplaces, but commercial workplaces, mining and transport may be exempted.

The functions of the system of labour inspection are:

- to secure the enforcement of the legal provisions relating to conditions of work and the protection of workers while engaged in their work, including safety and health provisions;
- to supply technical information and advice to employers and workers concerning the most effective means of complying with the legal provisions;

- to bring to the notice of the competent authority defects or abuses not specifically covered by law.

Ratifying countries undertake to ensure that duly qualified technical experts and specialists, including specialists in medicine, engineering, electricity and chemistry, take part.

Labour inspectors must be empowered to take steps with a view to remedying defects observed in plant, layout or working methods likely to endanger health or safety.

The Convention was supplemented by a Recommendation (No. 81) on labour inspection generally, and a Recommendation (No. 82) on labour inspection in mining and transport undertakings, adopted in 1947.

It is suggested that arrangements for collaboration between employers and workers might take the form of safety committees or similar bodies set up within each undertaking.

Labour inspection in agriculture was included in the agenda of the 53rd Session of the General Labour Conference held in Geneva in 1969, and a Convention and Recommendation were adopted on this matter. Labour inspection has also been discussed at various other ILO Conferences and meetings, in particular at the Third Session of the African Advisory Committee, held at Dakar in 1967.

A meeting of Heads of Official Services for Occupational Safety and Health, held in Geneva in November 1967, reviewed all the problems encountered by such services at national or international level. The main topics of the discussion were: the structure and operation of such official services, the training of inspectors, their present and future tasks, co-operation between the national services and international co-operation. The documents of this meeting, together with its recommendations, was published in the *Occupational Safety and Health Series*. The ILO has further published a *Guide for Labour Inspectors* (1955) and a report entitled *Labour Inspection — A World Survey of National Law and Practice* (1966).

In 1963, an international symposium convened in Geneva by the ILO examined the role, functions and responsibilities of the medical inspection of labour. An issue of the *Occupational Safety and Health Series* (No. 2) contains the report of the symposium and a survey of legislation and practice concerning the medical inspection of labour. A manual on this subject was published in 1968 entitled *The Role of Medical Inspection of Labour*.

Protection of Health in Places of Employment

A number of international standards and of guiding principles have been adopted by the ILO on various aspects of health protection in workplaces. These cover general questions of organisation and problems concerning specific economic sectors or particular industries. The latter are dealt with in the relevant chapters. Only provisions of a general scope are mentioned here.

Recommendation No. 97 is concerned with the control of health hazards, medical examinations, notification of occupational diseases and the provision of first-aid facilities. It deals with ways in which suitable environmental hygiene may be maintained in workplaces (dimensions of rooms, cleanliness, lighting, atmospheric conditions, sanitary conveniences, washing facilities, noise, vibrations, storage of dangerous substances, etc.), and technical measures to protect the workers from harmful agents (segregation or enclosure of processes, exhaust ventilation, personal protective equipment, etc.).

Another Recommendation (No. 112) defines occupational health services in places of employment and sets out requirements concerning their organisation, functions, personnel and equipment. The services should be provided under laws or regulations, or as agreed upon by the employers or workers concerned, or as approved by the competent authority, and either for a single undertaking or as a service common to a number of undertakings. They should be set up for all undertakings and for public services. Their duties should include surveillance of environmental factors, hygiene and the adaptation of jobs to workers; medical examinations, emergency treatment, health education of personnel; first-aid training and statistical compilations. Collaboration with interested persons and bodies inside and outside the undertaking is stressed and requirements are laid down concerning the personnel, equipment and conditions necessary for the performance of the functions of the service.

The Fifth Session of the Joint ILO/WHO Committee on Occupational Health examined in 1966 the question of the organisation of occupational health services in developing countries and suggested appropriate ways for their implementation. The report and the working papers of this meeting have been published in the *Occupational Safety and Health Series*, (No. 7).

Guarding of Machinery

Recommendation No. 32 (1929) concerning responsibility for the protection

of power-driven machinery recommends that it should be prohibited by law to supply or install any machine intended to be driven by mechanical power unless it is furnished with the safety appliances required by law.

The question of the sale and hire of machinery that is not adequately guarded was taken up again later and was considered in 1963 by the International Labour Conference, which adopted a Convention (No. 119) and a Recommendation (No. 118). The Convention applies to all machines, new or second-hand, that are power-driven. It deals with the sale, hire, transfer in any other manner, exhibition and use of machines, and also with the measures to be taken to apply the Convention. The Recommendation covers the same ground in more detail; it applies to all industries.

Protection of Women

Naturally, international standards apply to both male and female workers, but there are some instruments specifically concerned with the protection of women workers, or embodying provisions applying specially to women.

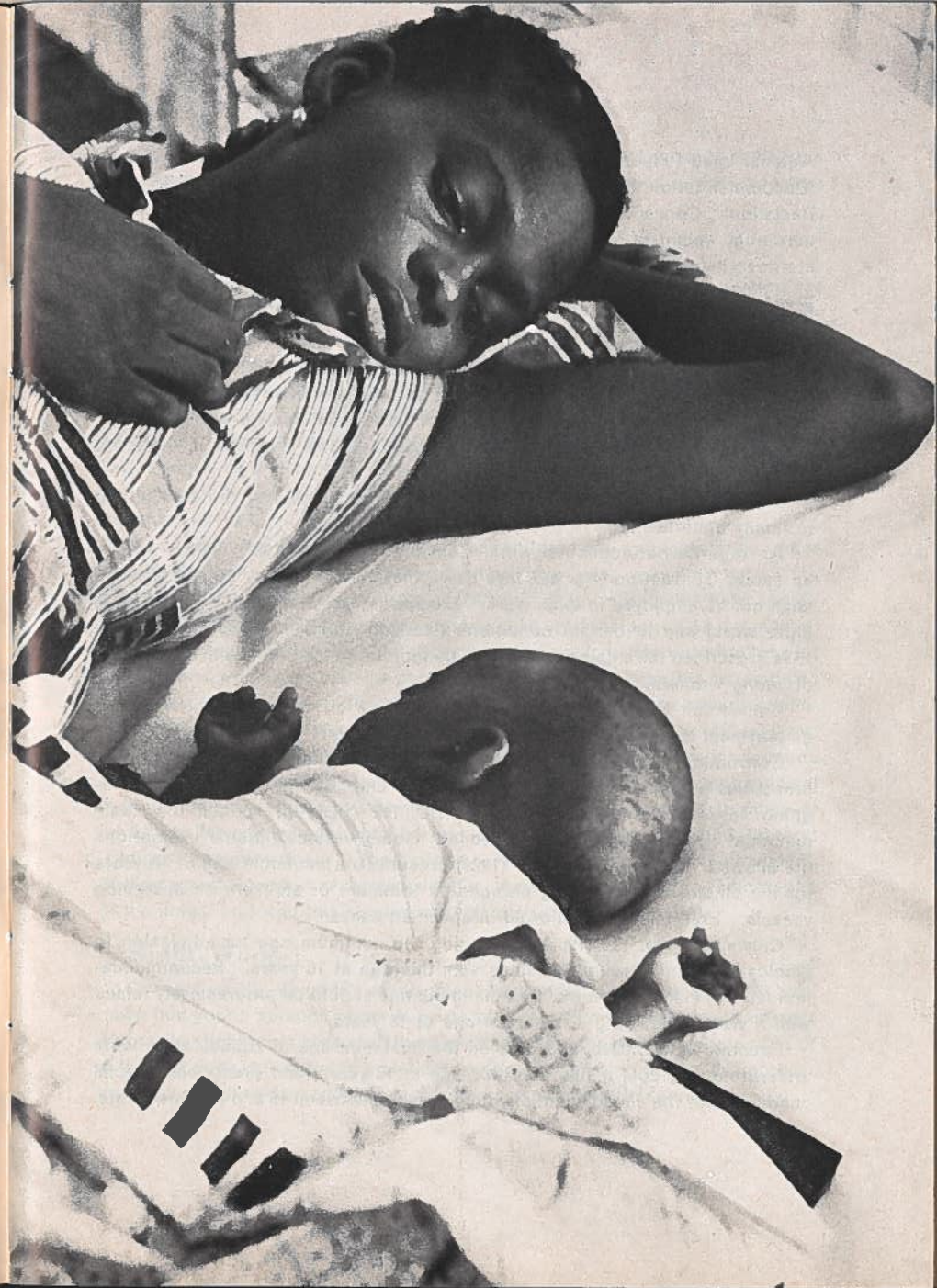
Thus Convention No. 3 (1919), Recommendation No. 12 (1921) and Convention No. 103 (1952) deal with maternity protection. The latter lays down that every pregnant woman shall be entitled to maternity leave of at least 12 weeks, of which six must be taken after confinement. Further, when a woman nurses her child, she is entitled to interrupt her work for the purpose. However, some exemptions are allowed.

Conventions Nos. 4, 41 and 89 are concerned with the night work of women in industrial employment. Convention No. 89 (1948) which revises the earlier ones, lays down that no woman shall be employed during the night, night being defined as a period of 11 consecutive hours including an interval of at least seven consecutive hours between 10 p.m. and 7 a.m. The Convention contains special provisions for certain countries.

Recommendation No. 13 (1921) deals with night work of women in agriculture. It states that they should have a rest period during the night of not less than nine hours, which when possible should be consecutive.

Convention No. 45 (1935) on the employment of women underground in mines of all kinds provides that no female shall be employed on underground work in any mine.

Other instruments deal with the protection of women in certain kinds of work (Recommendation No. 4 (1919) on the Protection of Women and Children



Against Lead Poisoning), or contain provisions applicable to women workers (Recommendation No. 114 on the Protection of Workers Against Ionising Radiations; Convention No. 127 and Recommendation No. 128 (1967) on the maximum weight of loads). The measures prescribed by these instruments are described below in the sections dealing with the risks in question.

Protection of Children and Young Workers

Minimum Age

Convention No. 59 (1937), revising an earlier Convention (No. 5), lays down that children under the age of 15 shall not be employed in any industrial undertaking. Provision is made for certain exemptions and also for cases in which the national legislation may fix a higher age than 15. In addition, there are special provisions for certain countries.

Recommendation No. 52 (1937) extends the provisions of the Convention to family undertakings.

As regards non-industrial work, Convention No. 60 (1937), which revises an earlier Convention (No. 33), lays down that children under 15 years of age shall not be employed in such work. Exemptions are allowed for certain work (light work) and in certain conditions (working hours). A higher age than 15 is prescribed for employment that is dangerous to the life, health and morals of young workers.

Convention No. 10 (1921) concerning the age of admission of children to employment in agriculture sets the minimum age at 14 years.

Convention No. 58 (1936), which revises an earlier Convention (No. 7), prescribes a minimum age of 15 years for the employment of children on sea-going vessels. Similarly, Convention No. 112 (1959) prescribes the same minimum age for children employed on fishing vessels. Some exemptions are allowed. Convention No. 15 (1921) prescribes a minimum age of 18 years for the employment of young persons as trimmers or stockers on sea-going vessels. Exemptions are allowed in specified cases.

Convention No. 123 (1965) concerning the minimum age for admission to employment underground in mines sets this age at 16 years. Recommendation No. 124 (1965) states that this minimum age should be progressively raised with a view to attaining a minimum age of 18 years.

Recommendation No. 96 (1953) on the minimum age of admission to work underground in coal mines sets this age at 16 years, and prescribes special conditions for the employment of young persons between 16 and 18 years of age.

Lastly, Convention No. 115 (1960) on protection against ionising radiations lays down that no worker under the age of 16 shall be engaged in work involving such radiations.

Medical Examinations

Conventions Nos. 77 and 78 (1946) concerning medical examination for fitness for employment of children and young persons in industrial and non-industrial occupations respectively, lay down that no person under 18 years of age shall be admitted to, or retained in, employment unless he has been found fit for it by a thorough medical examination. The examination should be repeated at intervals not exceeding one year. In occupations with a high health risk examinations are required until at least the age of 21 years. The Conventions also include provisions concerning the conduct of examinations, their consequences and certificates of fitness. Special provisions apply to certain countries.

Convention No. 16 (1921) lays down that children and young persons under 18 years of age shall not be employed on any sea-going vessel except on the production of a medical certificate of fitness. Medical examinations should be repeated at intervals not exceeding one year until the age of 18 is reached.

Recommendation No. 79 (1946) defines the scope of medical examinations for children and young persons, the nature of certificates of fitness, the measures to be taken for persons found to be unfit or only partially fit for employment, qualifications of examining doctors, and the rules applicable to young itinerant workers.

Convention No. 124 (1965) concerning medical examination of young persons for fitness for employment underground in mines states that a thorough medical examination and periodic re-examinations at intervals of not more than one year for fitness for employment shall be required for the employment underground in mines of persons under 21 years of age. The Convention contains provisions dealing with the conduct of the examination, in particular as regards radiographs of the lungs, and with the keeping of registers by the undertakings.

Night Work

Convention No. 90 (1948), which revises an earlier Convention (No. 6), lays down that young persons under 18 years of age shall not be employed or work during the night in any industrial undertaking. Night is defined as a period of at least 12 consecutive hours including certain specified intervals. Exemptions are provided for certain categories of workers and for certain countries.

Convention No. 79 and Recommendation No. 80 (1946) concerning the restriction of night work of children and young persons in non-industrial occupations provide that children under 14 years of age who are admissible for full-time or part-time employment shall not be employed or work during the night. By night is meant a period of at least 14 consecutive hours including the interval between 8 p.m. and 8 a.m. Young workers between 14 and 18 years of age are also prohibited from working at night, which in their case is defined as a period of at least 12 consecutive hours including the interval 10 p.m and 6 a.m. Exemptions are provided for specified circumstances and employment, and for certain countries. The Recommendation deals with the conditions attaching to the grant of exemptions provided for in the Convention and methods of supervision, especially of young itinerant workers.

Recommendation No. 14 (1921), concerning the night work of children and young persons in agriculture, recommends that young persons between 14 and 18 years of age should have a rest period of at least nine consecutive hours during the night.

Other Provisions relating to Young Workers

Recommendation No. 125 (1965) concerning conditions of employment of young persons underground in mines lays down, among other things, that the employer should inform young persons of the risks involved in their work, of the appropriate protective measures and equipment, of regulations regarding safety, and of first-aid methods. There should be a practical safety programme at each mine, including action to ensure prevention and correction of hazardous conditions; training, inspection and accident investigation and prevention; supply and replacement of protective clothing and equipment.

Convention No. 13 (1921) provides *inter alia* that young persons under 18 years of age shall not be employed in any painting work of an industrial character involving the use of white lead (see also below). Recommendation No. 4 (1919) concerning the protection of women and children against lead poisoning lists the processes involving this risk from which young persons under 18 years of age should be excluded. It further sets out the health precautions to be taken when young persons are employed in processes involving the use of lead compounds.

Special provisions applying to young workers are included in the Convention (No. 127) and the Recommendation (No. 128) of 1967 concerning the maximum weight of loads to be carried by one worker (see below).

A publication is in preparation on the role of occupational medicine in the protection of young workers.

Protection of Migrants

The safety and health needs are, basically, the same for national and migrant workers, although in practice the latter may require additional protective measures on account of their being strangers to the country or surroundings.

Furthermore, it is necessary to protect such migrants from any possible discrimination in their new places of employment, and Member States are therefore invited, through the ILO instruments, to guarantee the equality of treatment of migrant workers. Such instruments—to name only Conventions No. 110 on plantations and No. 117 on the basic aims and standards of social policy, or Recommendations No. 86 on migration for employment and No. 100 on protection of migrant workers in underdeveloped countries, while of a general character, lay down the standards of safety and health applicable to migrants and complement thus other activities aimed at raising the conditions of life and work.

Ergonomics

Among the means of improving the welfare and safety of the workers and at the same time of increasing productivity, ergonomics occupies an important place. The several disciplines that it is designed to synthesise in a practical manner may find many applications both in industrialised and in developing countries. In this domain two kinds of activity have been pursued by the ILO: symposia and technical co-operation.

A first international symposium was held at Prague in 1967. Organised jointly by the ILO and the Czech authorities, its theme was "Ergonomics in Machine Design". The subjects discussed were anthropological, psychological and physiological data; the machine and the operator's health; evaluation of ergonomic achievements; means of furthering ergonomics. The proceedings of the symposium have been published.

A second symposium was held at Rome in 1968. It was organised by the ILO and the Ente Nazionale Prevenzione Infortuni (Italian National Accident Prevention Institute) and its theme was "Ergonomics and Environmental Factors". Subjects dealt with included vibration, noise, electromagnetic radiations, odours, lighting and atmospheric conditions in premises.

The ILO held a third one, the International Symposium on Ergonomics applied to Forestry, in Hamburg, in 1969.

In the field of technical co-operation, expert missions have been organised to study the ergonomic aspects of industrialisation in undertakings in developing countries in the tropics (steelworks in Ghana, mines and steelworks in India). In 1970, an ILO expert in Mexico carried out a project on practical application of ergonomics in industry.

Statistics of Employment Injuries

Any sustained and planned effort in the field of prevention of occupational accidents and diseases requires constant recourse to statistics of such injuries. Such statistics not only show whether progress is being made; they permit to pinpoint the main hazard areas and to establish priorities, thus directing any future action aimed at raising the standards of safety and health in a given country, branch of economic activity or even in a particular undertaking.

The following review of ILO activities in the field of labour statistics fully reflects the place reserved to it.

The International Conference of Labour Statisticians, the expert body set up by the ILO to recommend international standards in the field of labour statistics, has considered the topic of statistics of industrial accidents and occupational diseases on a number of occasions.

The First International Conference of Labour Statisticians, which met in 1923, passed a resolution on the subject, making recommendations as regards the classification of industrial accidents by industry, accident cause, extent and degree of disability, and the location and the nature of injury. The resolution further recommended standard methods for the compilation of frequency and severity rates for industrial accidents.

In 1929, the International Labour Conference adopted a Recommendation on the prevention of industrial accidents (No. 31), stressing the importance of accident statistics and suggesting various measures that should be taken by governments for the compilation and utilisation of these statistics.

The recommendations of the First Conference were reviewed at the Sixth International Conference of Labour Statisticians which met at Montreal in 1947.

The Seventh International Conference of Labour Statisticians which met in Geneva in 1949 considered the feasibility of an international Convention on the standardisation of statistics of industrial accidents and occupational diseases.

The Eighth Conference which met in Geneva in 1954 laid down principles for the compilation of statistics of occupational diseases.

The Tenth International Conference of Labour Statisticians, which met in Geneva in 1962, adopted a resolution establishing new basic standards in the field of employment accidents, to replace those adopted in 1923 and 1947. In addition to international definitions of fatalities, permanent disablement and temporary disablement for statistical purposes, this resolution supplies classifications according to type of accident, the agency related to the injury or to the accident, the nature of the injury and the bodily location of the injury. The work of the Conference was facilitated by a report of a Committee of Experts on Industrial Injury Statistics which met in Geneva in 1959. The Tenth Conference also recommended that the ILO pursue the study of statistics of employment injuries, and in particular investigate the problems relating to the establishment of a standard notification form and to methods of computing comparative measures.

Apart from its work on industrial accident and occupational disease statistics in connection with these Conferences, the International Labour Office has published special monographs on the methods in use in different countries for compiling statistics of accidents in rail transport and in coal mining, studies dealing with the general problem of measuring industrial accident risks, data from various countries on industrial accidents, and risk rates in different fields of economic activity. Since 1940, injury frequency rates — fatal rates for mining, manufacturing and railways, as well as non-fatal rates for mining—have been published in the *Year Book of Labour Statistics*.

Rehabilitation

The ILO has concerned itself with the general problems of the vocational training and rehabilitation of the disabled.

Recommendation No. 99 (1955) on these subjects sets out the measures to be taken to ascertain the nature and extent of disablement, to provide suitable vocational training for the disabled, to facilitate their employment, and to establish the necessary co-operation between the various services and organisations concerned. Special provisions apply to disabled children and young persons.

Several countries have been provided with technical assistance for the organisation of rehabilitation services.

Among ILO publications on rehabilitation should be mentioned the *Manual on Selective Placement of the Disabled* (1965) and *Basic Principles of Vocational Rehabilitation of the Disabled* (1967).

Safety and health in particular occupations

Industrial Establishments

The *Model Code of Safety Regulations for Industrial Establishments for the Guidance of Governments and Industries*, adopted by a Tripartite Technical Conference in 1948, is a monumental work comprising 244 sets of regulations in 16 chapters and running to some 500 pages.

The main subjects dealt with are industrial premises (general requirements, floors, floor and wall openings, stairs, platforms, elevators, yards, lighting, ventilation, temperature, etc.); fire prevention and protection (exits, fire-fighting facilities, alarm systems, storage of explosive and flammable substances, lightning protection, etc.); machine guarding (general requirements, prime movers, transmission and working machines of all kinds); electrical equipment; hand tools and portable power-driven tools; boilers and pressure vessels (including air receivers, compressors and gas cylinders); furnaces, kilns and ovens (from blast furnaces to enamelling ovens); handling and transportation of material (general requirements, cranes of all kinds, portable hoists, winches, blocks and tackle, conveyors, power and hand trucks, plant railways, piping systems, etc., and lastly, lifting, carrying, piling and storage of material); dangerous and obnoxious substances (flammable and explosive substances, such as commercial explosives, magnesium, celluloid, acetylene, organic dust and cellulose solutions for spray painting; corrosive, hot and cold substances and alkalis etc.; infectious, irritating and toxic substances, including carbon monoxide, lead and its compounds, phosphorus and coal-tar derivatives); dangerous radiations (infra-red, ultra-violet, ionising radiations); maintenance and repairs; health protection (sanitation, exhaust ventilation, etc.); personal protective equipment; selection of workers, medical service and first-aid (includes protection of women and young persons and medical examinations); and works safety organisation.

Amendments to various provisions of the *Model Code* relating to the textile industries and to acetylene welding and related subjects were adopted by a meeting of experts in 1955 and have been incorporated in the Code. Amend-

ments to the provisions concerning radiations were drafted in 1957 by a committee of experts (see page 32). Other amendments concerning the safety of lifts will be published shortly.

Agriculture

The ILO has for many years been aware of the importance of safety and health in agriculture. The development of mechanisation and the increasing use of chemicals in agriculture have led the ILO to prepare specific standards for this sector. Thus a meeting of experts held in 1964 adopted a *Code of Practice on Occupational Safety and Health in Agricultural Work* comprising nearly 1,000 provisions. In addition, a *Guide to Safety in Agriculture* was published in 1969 and a *Manual on Safety and Health in Agriculture* will be published shortly.

A panel of consultants on safety and health in agriculture has been set up to assist and guide the Office in its work in this field. The panel consists of some 40 specialists from different parts of the world.

Forestry

A study on safety and health in forestry work was compiled in 1957; it includes detailed statistics of accidents.

At the request of the Joint FAO/ECE/ILO Committee on Logging Techniques and the Training of Forestry Workers, the ILO has published a *Guide to Safety and Health in Forestry Work*.

A *Code of Practice on Safety and Health in Forestry Work* has been published.

Protection of Seafarers

In 1946, the International Labour Conference adopted a Convention (No. 73) on the medical examination of seafarers which, with minor exceptions, applies to every person engaged in any capacity on board any seagoing vessel other than a fishing vessel and certain small vessels.

Another Convention (No. 113), which was adopted in 1959, extends the provisions on medical examinations to fishermen.

On several occasions the maritime consultative body of the ILO, the Joint Maritime Commission, has included on its agenda items referring to health of seafarers and the International Labour Conference especially at its maritime sessions, has adopted several instruments bearing directly or indirectly on this subject. Particular mention may be made of two Recommendations (No. 105

and 106) adopted in 1958 at the 41st (Maritime) Session of the Conference. The first deals with the contents of medicine chests on board ship and recommends the adoption of a standard list of medicaments and surgical instruments, appliances and equipment to be carried on board every ship whether there is a ship's doctor on board or not. The annex of the Recommendation gives the list of suggested medicaments and medical equipment. The second Recommendation deals with medical advice by radio to ships at sea.

The two Recommendations were adopted as a result of a proposal made by the Second Session of the Joint ILO/WHO Committee on the Health of Seafarers which met in 1954. The Joint Committee, which studies seafarers' health on a continuing basis and defines the policy to be followed by the two organisations with respect to them in the field of hygiene of seafarers, was established in 1949 following a recommendation adopted by the First World Health Assembly in 1948. The ILO, WHO and IMCO in 1965 adopted a co-ordinated scheme which comprises an international model for a ships' medical guide, a new schedule of contents for ships' medicine chests and the revised medical section of the International Code of Signals.

Requirements of hygiene are included in Convention No. 75, adopted in 1946, and in a revised Convention (No. 92), adopted in 1949, concerning crew accommodation on board ship. A third Convention (No. 126), adopted in 1966, concerns minimum standards of accommodation on board fishing vessels.

These Conventions contain detailed provisions concerning the location, structure, arrangement, dimensions, floor space per person, heating, lighting and ventilation of crew accommodation, mess rooms, dormitories, sanitary, hospital and recreational accommodation.

The problem of the safety training of seafarers was studied in 1964 by a Joint ILO/WHO/IMCO Committee on the Training of Seafarers in the Use of Aids to Navigation and Other Devices which adopted a document for guidance intended to assist countries in the provision of training related to shipboard safety.

In the field of safety, a Recommendation (No. 48), adopted in 1936, included provisions concerning the fencing of dangerous places in dock areas, lighting in these areas, etc.

The First Session of the Tripartite Subcommittee on Seafarers' Welfare of the Joint Maritime Commission, which met in 1959, adopted resolutions and conclusions emphasising the need for a stricter application of the principles contained in Recommendation No. 48, mentioned above, while a conclusion

adopted by the Third Session of the Subcommittee in 1966 pointed out that vocational training schemes for seafarers should include education and information on general health hazards.

In 1968, a Joint ILO/FAO/IMCO Meeting on Safety on Board Fishing Vessels adopted an international code of practice dealing with the navigational, operational and occupational aspects of the subject. The code introduces international minimum standards with respect to the safety of fishermen and fishing vessels.

Moreover, a Medical First Aid Guide annexed to the IMCO *Code on Dangerous Goods* was prepared with the co-operation of ILO and WHO.

In 1970, the 55th Session of the International Labour Conference, which was specially concerned with maritime questions, adopted a further Convention and Recommendation on the prevention of occupational accidents to seafarers.

Mines

A *Model Code of Safety Regulations for Underground Work in Coal [Mines for the Guidance of Governments and of the Coal-Mining Industry]* was adopted by a Tripartite Technical Conference in 1949.

The Code consists of 99 regulations grouped in 24 chapters. The matters dealt with in the various chapters are general requirements; means of access and egress; mine plans; explosives; shotfiring; supports; haulage of material on roads and inclines; travel and transportation of workers on roads and inclines; winding or hoisting of men and material; ventilation; precautions against fire-damp; precautions against coal dust; miners; lamps; precautions against inrushes of water; prevention and extinction of mine fires; shaft sinking or deepening; electricity; machinery and plant; qualifications and duties of managing officials, supervisory officials and miners; notification, investigation and recording of accidents and dangerous occurrences; first aid and rescue; general inspections by managers and supervisory officials; mine safety organisation; miscellaneous matters.

A *Code of Practice on the Prevention of Accidents Due to Fires Underground in Coal Mines* was published in 1959. It comprises 225 paragraphs, most of which (199) apply to all coal mines, and the remainder to mines liable to spontaneous combustion. The generally applicable provisions are divided into two sections, the first dealing with general operating precautions, and the second with organisation for the prevention, detection and fighting of fires. The provisions for mines liable to spontaneous combustion are concerned

with matters such as inspections, coal getting, packing and stowing, carbon-monoxide control and fire-extinguishing material.

Also published in 1959 was a Code of Practice on the *Prevention of Accidents Due to Electricity Underground in Coal Mines*, in two parts. The first part, comprising 220 paragraphs, applies to all coal mines and deals with installation, examination, testing, operation, maintenance and repairs. The second part consists of a smaller number of extremely important supplementary provisions applicable to gassy and dusty mines.

Recommendations on the prevention of dust in mining, tunnelling and quarrying were drawn up by a committee of experts which was appointed by the Governing Body of the ILO and met in 1952.

The technical recommendations, 104 in all, are in the nature of a code of practice and deal with the prevention of dust formation (in relation to methods of working, roof control and support, drilling, shotfiring, coal cutting and getting machines, transport, etc.); suppression of dust at source of formation (matters such as drilling, water infusion, loading of mineral and dead rock, pneumatic picks, preparation of coal, ores and other minerals); prevention of deposited dust from becoming airborne (watering and spraying, wetting agents consolidation of dust deposits, etc.); removal of airborne dust (extraction, filtration, mist projection, ventilation, etc.); dust sampling, measurement and analysis; personal protective equipment; supervision and maintenance of dust prevention and suppression devices; education and training of personnel; and stone dusting in coal mines.

In 1965 the ILO published a *Guide to the Prevention and Suppression of Dust in Mining, Tunnelling and Quarrying*. It explains the different methods of combating dust, using water, and equipment collecting and filtering dust. Different sections deal with the formation of dust in drilling, blasting, coal getting, transport of mineral and rock, etc., and indicate the appropriate dust suppression measures in each case.

In 1966 the Governing Body of the ILO established a panel of consultants on safety in mines; the Office can thus consult these specialists in all matters within their competence.

A *Code of Practice on Radiation Protection in the Mining and Milling of Nuclear Materials* was prepared in co-operation with the International Atomic Energy Agency (IAEA) and was published in 1968.

A *Code of Practice on Prevention of Accidents Caused by Explosions in Underground Work in Coal Mines* will be published shortly.



Building, Civil Engineering and Public Works

An international labour Convention (No. 62) concerning safety provisions in the building industry was adopted in 1937. It lays down minimum requirements for the various types of scaffolds (pole, ladder, cantilever, suspended, etc.), working platforms; gangways, runs and stairs; ladders; fencing of openings; hoisting appliances and tackle, hoisting operations; personal safety equipment, rescue and first-aid.

The Convention is supplemented by a Recommendation (No. 53), also adopted in 1937, to which is appended a Model Code of safety regulations.

A second Recommendation (No. 54) states a number of principles and rules to be taken into consideration as regards inspection in the building industry, including the technical qualifications of inspectors and collaboration between inspectorates and building contractors.

A third Recommendation (No. 55) states principles and rules in connection with accident prevention. It deals with the collaboration of the interested parties, safety organisation, training, education and propaganda.

In 1966 the Governing Body of the ILO decided to establish a panel of consultants for matters of occupational safety and health in the building, civil engineering and public works industries. The Office can thus have recourse to them for advice in all matters within their competence. They recently adopted a draft Code of Practice on occupational safety and health in the industries concerned.

Guides to safety and health in the building industry and public works are in preparation.

Protection of Dockers

Convention No. 27 (1929), concerning the marking of the weight on heavy packages transported by vessel, lays down that any package or object of 1,000 kg. or more gross weight consigned for transport by sea or inland waterway shall have its gross weight plainly and durably marked upon it on the outside before it is loaded on a ship or vessel.

Convention No. 32 (1932) revises Convention No. 28 (1929) concerning the protection against accidents of workers employed in loading or unloading ships. It deals with workplaces on shore and their approaches (lighting, fencing of openings and elevated passageways, etc.); transport of dockers

by water and means of access to ships; hatches, access to holds and hoisting appliances; working rules for loading and unloading operations; handling of dangerous or unhealthy cargoes; first aid and rescue arrangements; and reciprocal recognition of arrangements made in different countries for testing, examining and annealing and the relevant certificates. This question of reciprocity was further dealt with in Recommendation No. 33 which supplemented Convention No. 28, and Recommendation No. 40, which supplemented Convention No. 32.

With the object of supplementing the provisions of the Convention by more detailed recommendations, a committee of experts met in 1956 and adopted a *Code of Practice on Safety and Health in Dock Work*. It consists of some 700 provisions grouped in 19 chapters. Among the many matters dealt with are lighting, electrical equipment, ladders, hand tools, railings, fire protection, wharves and quays, gangways, transport of dockers by water, protection of hatchways, access to holds, loading and unloading machinery and gear, conveyors, power trucks, dock railways, warehouses, medical aid, dangerous cargoes, training of dockworkers, welfare and safety and health organisation.

In 1969, the ILO convened a technical tripartite meeting in Rotterdam on work in ports, whose agenda included the safety, hygiene and welfare of dockers, as well as items on their training and vocational rehabilitation.

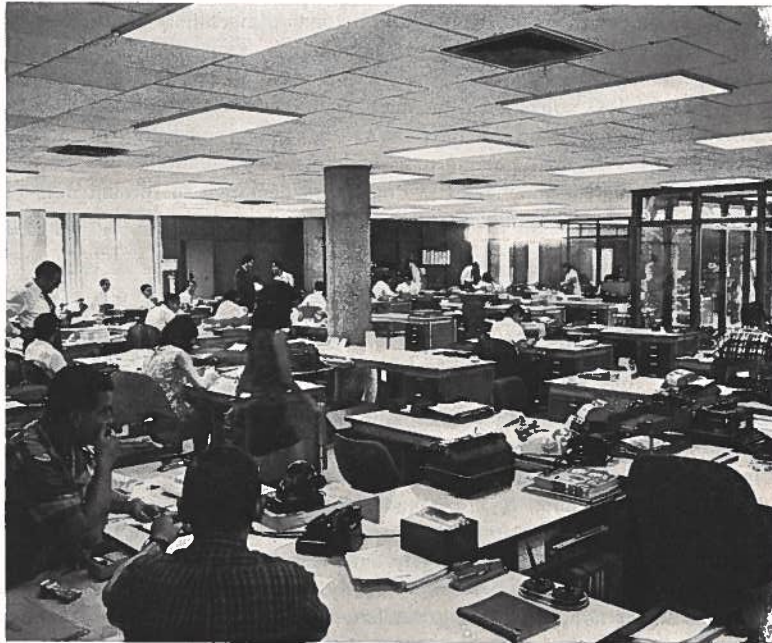
A guide to safety and health in dock work designed to furnish detailed practical advice on the application of the provisions of the *Code of Practice* is in preparation.

Other Industries

Some of the tripartite committees of the International Labour Organisation concerned with particular industries have dealt with questions of occupational safety and health. These questions have included safety and hygiene in the chemical industries, the classification and labelling of dangerous substances, hygiene in the textile industries, safety and hygiene in the woodworking and furniture industries, accident prevention in forestry, teaching safety practices by audio-visual methods in the chemical industries, occupational safety in shipbuilding and ship repairing, the protection of workers in the printing and allied trades, and occupational safety and health in the food products and drink industries, in the petroleum industry, inland transport, etc. These questions are the subject of reports published on the occasion of the respective meetings.

Commerce and Offices

Hygiene in commerce and offices forms the subject of a Convention (No. 120) and a Recommendation (No. 120) adopted in 1964. The matters with which they deal include maintenance and cleanliness of premises, natural and artificial ventilation, lighting, temperature, working space, drinking water, washing facilities, sanitary conveniences, seats, clothing accommodation and changing rooms, underground and similar premises, obnoxious or unhealthy or toxic substances, processes and techniques, noise and vibration, methods and places of work, first-aid, mess rooms, rest rooms, planning and construction of premises, measures against the spread of disease, instruction of employers and workers in hygiene measures, and co-operation between competent authorities, employers and workers in the field of occupational hygiene.



The ILO has recommended minimum standards for office and commercial workers.

Protection against specific risks

Maximum Weight to be Carried by One Worker

Convention No. 127 specifies that the weight of a load transported manually should not endanger health and safety of the workers, that these should receive appropriate training or instructions, that assignment of women and young workers to such work should be limited and that the maximum weight of load for these workers be substantially less than that permitted for male workers. The instrument applies to workers engaged in regular manual transport of loads.

Recommendation No. 128 extends the scope of the provisions of the Convention and gives further details with regard to training and instructions, medical examination for fitness for employment, use of technical devices, requirements for packaging and to other measures intended to protect health and safety. It specifies that the maximum weight of a load transported manually by an adult male worker should not exceed 55 kg.

Prevention and Suppression of Dust

The International Labour Organisation is acting as a centre for the collection and dissemination of information in the field of prevention and suppression of dust in mining, tunnelling and quarrying.

From the information received by member countries, the Office compiles international reports stressing outstanding achievements.

The first four international reports covered the information collected during the 1952-1954, 1955-1957, 1958-1962 and 1963-1967. Subsequent reports will cover five-year periods.

The reports deal with legislation and its application; pneumoconiosis statistics; technical, administrative and educational measures against dust; the provision of water; ventilation; roof control; precautions in drilling, loading, transport and shotfiring; consolidation of road dust; removal of airborne dust;

supervision of operations; maintenance of equipment; education of personnel; sampling, measurement and analysis of airborne dust. A substantial bibliography is appended.

Research on Pneumoconiosis

An *International Classification of Radiographs of Pneumoconiosis* (Geneva Classification) was adopted in 1958. This is illustrated by sets of standard films, composed of 14 X-ray films illustrating the various categories of the Classification. More than 900 sets are at present in use in 55 countries. Both the Classification and the standard films are under review for possible improvements.

A publication on *Respiratory Function Tests in Pneumoconiosis* (*Occupational Safety and Health Series, No. 6*) contains the report and working papers of a meeting of experts. A detailed description of the more currently used respiratory function tests is given with a view to achieving standardisation in their execution and evaluation.

Dangerous Substances

Dangerous substances are more and more widely used in all branches of economic activity. Accordingly, the ILO has included its relevant prescriptions, under separate headings, in most of the codes, guides and handbooks it has published.

As regards labelling of dangerous materials in industry, the ILO has designed a series of danger symbols for the various types of explosive, inflammable, oxidising, toxic, corrosive and radio-active substances.

The classification and labelling of dangerous goods during transportation is also being studied by the ILO and other international bodies, such as the United Nations, the United Nations Economic Commission for Europe and international transport organisations.

The question of permissible levels for toxic substances in working places was discussed at the 5th session of Joint ILO-WHO Committee on Industrial Medicine, which recommended the adoption of maximum permissible concentrations for a certain number of these substances.

This docker, bent under his heavy crate, would benefit from the regulations concerning maximum weight for loads transported manually.



Lead, Phosphorus, Benzene and Carcinogenic Substances

Convention No. 13 sets limitations for the lead content of white lead paints and specifies preventive measures, such as protective equipment, notification of cases of intoxication, and control.

Recommendation No. 6 prohibits the use of white phosphorus in the match industry.

A publication (*Occupational Safety and Health Series, No. 12*) contains the report and working papers of a meeting of experts on the safe use of benzene and solvents containing benzene. Industrial uses, technical preventive measures, methods of analysis and criteria for medical examination are reviewed. It is recommended *inter alia* that undiluted benzene should not be used as a solvent and that the benzene content of industrial solvents should not exceed 1 per cent. The question was placed on the agenda of the 56th Session of the International Labour Conference in 1971, which adopted a Convention and a Recommendation on the subject.

A study is at present under preparation on prevention of occupational cancer, with special reference to the most widely used chemicals. Attention will also be given to the problem of mesothelioma in asbestos workers.

Anthrax

Recommendation No. 3 calls for the disinfection of wool infected with anthrax spores either in the country of origin or upon delivery at the port of entry.

Electricity

Among recent activities concerned with electrical safety mention should be made of the International Symposium on the Safety of Portable and Mobile Electric Tools and Appliances organised by the International Centre for Advanced Technical and Vocational Training, the International Electrotechnical Commission and the ILO, and held in October 1967 at Turin. The proceedings of the Symposium have been published.

Ionising Radiations

A meeting of experts held in 1957 rewrote the provisions of the *Model Code of Safety Regulations for Industrial Establishments for the Guidance of Governments and Industries* dealing with X-rays and radiations from radioactive

substances which are being increasingly used for industrial purposes. The provisions were reprinted in 1959.

At its 1960 Session, the International Labour Conference adopted a Convention on the protection of workers against ionising radiations, supplemented by a Recommendation. These two instruments are applicable to all activities liable to involve exposure of persons to ionising radiations in the course of their work.

Furthermore, the ILO has prepared four guides giving the fundamental "do's" and "don't's" on radiation protection for all applications of ionising radiations, especially those having a bearing on industry. The guides deal with:

- basic principles of radiation protection in industry;
- precautions with industrial radiography and fluoroscopy;
- precautions in luminising (dial painting, etc.);
- precautions in the mining and milling of radioactive ores.

Further guides are in preparation, including one on the use of ionising radiations in non-nuclear industries.

The general guide first describes radiation injuries and industrial radiation hazards from X-rays and radioactive substances. It then discusses the sources and properties of ionising radiations, units and measurement of radiation, and effects of radiation on human beings. The remainder of the guide is concerned with control of radiation hazards and protection against them, the subjects dealt with including shielding, the precautions to be taken with unsealed radioactive material, the disposal of radioactive material, surveys and monitoring, and medical examinations.

The guide on radiation protection in industrial radiography and fluoroscopy deals with the structural features of X-ray and gamma ray installations, and with shielding calculations and operating procedures.

The guide on luminising describes the hazards and discusses means of controlling and eliminating them.

The Convention and Recommendation, together with the provisions of the *Model Code* and the various guides referred to above, constitute the *Manual of Industrial Radiation Protection*.

A *Code of Practice on Radiological Protection in the Mining and Milling of Radioactive Ores* has been prepared in co-operation with the International Atomic Energy Agency (IAEA).

A guide on medical surveillance in nuclear establishments has been prepared jointly by the IAEA, WHO and ILO.

Together with the IAEA and the WHO, the ILO has convened two symposia concerned respectively with radiological protection in the mining and milling of radioactive ores (1963), and the assessment of radioactive body burdens in man (1964).

The IAEA, FAO and ILO have set up a Technical Advisory Service on Radiation Protection and Waste Management to assist governments and professional bodies on request.

A course on radiation protection in industry held in Denmark under the auspices of the Danish authorities, the IAEA and the ILO has been published in the *Occupational Safety and Health Series* (No. 11).

WHO, IAEA and the ILO are preparing jointly a manual on radiological protection in hospitals and general medical practice; this will comprise several volumes.

TECHNICAL CO-OPERATION

The work of the International Labour Office would not be complete if some means were not provided to carry it to the field or, as it were, to the man on the job. The general procedure is for an expert, or a team of experts, to make a survey of industrial conditions, legislation, administrative organisation and activities, educational and training facilities, etc., and then to make recommendations on the action to be taken under each of these heads to improve conditions.

Thus direct assistance is rendered to governments by furnishing information on request, by collaborating in the drafting of laws and regulations, and, both under its own programme and under the United Nations Development Programme, by despatching experts to undertake surveys and furnish advice in the fields of occupational safety and health and labour inspection. Technical equipment for laboratory and demonstration purposes has also been supplied to a number of countries in all areas of the world.

The International Labour Organisation has, in addition, granted fellowships to officials in various countries to study safety and health questions in other countries. The fields of study range from the organisation of one or of all sectors of an occupational safety or health service for public or private sectors to specific subjects of a highly scientific or technical nature.

The efforts of the Office in field work have permitted it to reach some 50 countries; some once, others several times, until these may be said to be, if not self-contained, at least well on their way to developing services and activities adapted to their means and needs. Relations are pursued with occupational safety and health workers with whom contact has been established during technical co-operation projects.

Assistance continues to be rendered in helping individuals or groups to organise local activities. Many such activities have been set up on an inter-country basis thus offering an opportunity for periodical reviews of problems and methods to deal with them in geographical areas having similar conditions. A typical example is the Seminar on Occupational Health in Developing Countries organised by the Nigerian authorities, which was open to participants from all countries.

Many countries feel the need to enact legislation or modify and modernise existing laws and regulations. Sustained assistance from ILO headquarters is furnished so that countries may have the benefit of legal and practical experience before committing themselves to any given set of rules which may not prove the most helpful in their particular circumstances. Advice on problems

and corrective measures flow out in a constant stream to shore up the work of safety and health officials who might otherwise be cut off from reliable sources of information.

There is a great dearth of medical and technical personnel in most developing countries. Where such personnel exists, it may not be possible for an individual to leave his daily activities for long periods of study abroad as he may not have a replacement or it may not have been possible for the country to obtain assistance under any one of the usual types of technical co-operation programme. To cater to such needs two other types of projects have been made available.

One has taken the form of group study which, through intensive teaching and demonstration during a period of one to several weeks, affords an opportunity to increase knowledge and experience in a relatively short time. Such group study may also take the form of symposia, seminars, workshops, study tours or training courses organised with one or several specific subjects in mind. These are set up on a national, regional or inter-regional basis. So far, a number of them have been organised by the ILO alone or together with other international organisations concerned with some aspect of workers' protection and welfare. A wide range of subjects have been studied, including radiological health and safety, advanced training in accident prevention and health protection for medical and technical personnel, protection of machinery and equipment, scientific and technical improvement of workplaces, ergonomics, health and productivity, and protection against dust in industry.

A second type of project has been developed in recent years to bring directly to the points where rapid and efficient advice is required the knowledge and experience of specialists in general or specific fields. These are regional programmes which make available teams of experts to several countries of a region on the basis of flexible arrangements made with government authorities. These teams are essentially mobile and travel throughout a given region to assist in drawing up and implementing plans of organisation and activity. Extensive work is being done in Asia, the Near and Middle East, Latin America and Africa. So far, a number of countries served by such types of project have set up good nuclei of occupational safety and health services. With time and sustained assistance these can be expected to grow into more fully-fledged accident prevention and health protection organisations.

Problems of securing a better adjustment, both mental and physical, of man to work and work to man, particularly in developing economies, continue

to grow in complexity. In many countries, as the will and effort to improve workers' protection develop, so also increases the realisation of the contribution that accident and disease prevention can render to making work less arduous and more productive. In recent years great strides have been made in developing a more comprehensive approach to solving problems and in laying out schemes which may be applied *in situ*.

Once a nucleus of staff and services have been put into place in any one country, it is time to set up a more composite body, such as a centre or institute, to undertake applied research, basic and advanced training of personnel and direct service to places of employment. This calls for placing under one roof, so to speak, many different sciences and techniques to embrace, for instance, physiology, psychology, sociology, various medical and technological specialities which will all contribute, separately and collectively, and in a less isolated and more systematic manner to securing a wider application of principles, knowledge and experience relating to accident prevention and health protection.

Through wider means afforded by the United Nations Development Programme the ILO has already carried out projects which were designed to leave in a country, after a few years' time, a centre or institute capable of dealing with problems of production in relation to health and safety of workers. This ensures that such action is taken in an orderly fashion, as an integral part of a country's plans for social and economic progress. A first such socio-economic experiment was carried out in India, where a Central Labour Institute, comprising industrial physiology and psychology units as well as a productivity centre, was established in Bombay with ILO co-operation. Its activities have now been extended to three other important industrial areas of the country through three regional labour institutes. Similar units are being established in Turkey and the United Arab Republic, while plans are being laid for others in a number of countries within wider geographical reaches. Countries which have already availed themselves of this more massive type of assistance, which includes experts, fellowships and equipment, are better able to integrate their occupational safety and health activities into other economic and social advancement programmes including productivity, management, supervisory and vocational training, labour inspection and labour administration.

COLLABORATION WITH OTHER ORGANISATIONS

World Health Organization

Collaboration between the International Labour Organisation and the World Health Organization is systematised by means of the Joint ILO/WHO Committee on Occupational Health.

In the course of its six sessions, the Committee has made recommendations, *inter alia*, on:

- training of doctors and auxiliary medical personnel in occupational health;
- scope and organisation of occupational health institutes;
- general health protection of workers in places of employment (nutrition, communicable-disease control, protection of women and children, mental health, environmental sanitation, health education, and nursing services);
- health service programmes in industrial and agricultural undertakings;
- protection of agricultural workers against toxic hazards;
- protection of agricultural workers against occupational diseases arising from virus, rickettsia, bacteria, fungus or parasites;
- organisation of occupational health services in developing countries;
- permissible limits of toxic substances in the working environment and criteria for their assessment.

A Joint ILO/WHO Committee on the Health of Seafarers was established in 1949 (see page 22).

The ILO has co-operated with the WHO in the organisation of seminars. Examples of this co-operation are a South East Asian Seminar on Occupational Health, held in Calcutta in 1958, a Seminar on the same subject for the Western Pacific region, held in Tokyo in 1960, a Course on Occupational Health for the Near East Region, held in Alexandria in 1961, an Inter-Regional Course on Occupational Health in Agriculture, held in the USSR in 1965, a Joint Inter-Regional Course on Occupational Health and Safety, held in Manila in 1967. Other seminars were jointly organised with the WHO Regional Office for Europe, such as the European Seminar on the Nurse in Industry, held in London in 1957, the European Conference on the Industrial Medical Officers' Contribution in the Psycho-Social Environment to Industry, also held in London in 1959, the European Seminar on Health Service in Small Factories, held in Dublin in 1961.

Joint projects have recently been started in the field of technical co-operation, such as expert assistance in occupational health to Uganda, Kenya and Tanzania (1968), and close co-operation exists in the management of UNDP projects in occupational health and safety.

An example of ILO/WHO research collaboration to measure the effects of industrialisation on health.

CALCUTTA LAB →



International Atomic Energy Agency

Close collaboration has been established between the ILO and the IAEA on questions of radiation protection. The two organisations held, in conjunction with the WHO, a Symposium on Radiological Health and Safety in Mining and Milling of Nuclear Materials (1963), a Symposium on the Assessment of Radioactivity in Man (1964), and organised, together with the Danish Board of Technical Co-operation with Developing Countries, an Inter-Regional Course on Radiation Protection, held in Denmark in 1965. The labelling of radioactive materials is another field of common interest. A joint ILO/IAEA Meeting of Experts on Radiological Protection in Mining and Milling of Radioactive Ores met in 1965 and prepared a code of practice and a manual on this subject. Other joint publications on radiation protection are in preparation. The IAEA, FAO and the ILO together have set up a Technical Advisory Service on Radiation Protection and Waste Management.

IAEA, WHO, FAO and the ILO are jointly preparing a manual on mercury contamination of human beings and of their environment.

Food and Agriculture Organization

The ILO has collaborated with the FAO in the preparation of a Guide to Occupational Safety and Health in Forestry Work.

The FAO, the United Nations Economic Commission for Europe, and the ILO have set up a Joint Committee on Forest Working Techniques and Training of Forest Workers, which deals with safety, health and ergonomics in forest work. The ILO, in collaboration with FAO and WHO, is preparing a series of guidelines on pesticides.

United Nations Economic Commission for Europe

The ILO collaborates with the United Nations Economic Commission for Europe in matters relating to the international transport of dangerous goods by road, by rail and by inland waterway; the coupling of railway vehicles and related operations; the medical examination of road transport drivers.

European Communities

The ILO has been consulted by the Commission of the European Communities on various matters of health and safety.

The ILO collaborates with the Commission on the subjects of lung function tests and the classification of radiographs in the field of pneumoconiosis, and of dust determination analysis.

The ILO has also collaborated with the European Economic Community in connection with the compilation of a list of occupational diseases recognised by the member States of the Community, the organisation of occupational health services, etc.



This lumberman stands to gain from ILO/FAO co-operation in establishing minimum health and safety provisions for forestry workers.

International Social Security Association

The ILO co-operates with the Committee for the Prevention of Occupational Risks of ISSA. The two bodies in particular collaborate in organising the three-yearly World Congress on the Prevention of Occupational Accidents and Diseases.

Other Organisations, Governmental and Non-Governmental

Other governmental organisations with which the ILO collaborates in the field of occupational health and safety include the Council of Europe, the Organisation for Economic Co-operation and Development (OECD), the European Productivity Agency (EPA), the Organisation of Central American States (ODECA), etc.

Amongst the various non-governmental organisations active in the fields of occupational safety, health and ergonomics, close collaboration is mainly established with the International Organisation for Standardisation (ISO) the International Electrotechnical Commission (IEC), the Permanent Commission and International Association on Occupational Health, the International Ergonomics Association, the International Association of Rural Medicine, the World Federation for Mental Health, etc., which belong to ILO's Special List of Non-Governmental Organisations. As regards radiation protection, the ILO has working relationships with the International Commission on Radiological Protection (ICRP).

In addition to collaborating with other international organisations, the Office endeavours to keep in touch with national organisations engaged in the promotion of occupational safety and health, such as national safety, hygiene, medical and ergonomic associations.

Joint activities with national bodies take different forms: organisation of international congresses and symposia on occupational safety, health and ergonomics, preparation of publications, exchange and dissemination of technical information, international inquiries, consultation and advice on specialised subjects, provision of experts for missions of technical co-operation to developing countries, etc. The ILO in this respect plays the role of a world centre for exchanges and contacts between various public, semi-public and private national institutions responsible for protecting and promoting the health and welfare of workers.

COLLECTION AND DISSEMINATION OF INFORMATION

Encyclopaedia of Occupational Health and Safety

An encyclopaedia entitled *Occupation and Health* was published by the ILO over the period 1930-1934. As a contribution to the educational work of the Office and to the solution of present-day problems affecting the health and safety of workers, in 1965 the Governing Body of the ILO approved the preparation of a new Encyclopaedia of Occupational Health and Safety.

The Encyclopaedia is designed to present the most recent knowledge in this field, which has been broadened to include economic, psychological, sanitary and social topics that are associated with health and safety in the modern conception of industrial activity. It is also designed to appeal to a wide public, including persons and services responsible in various ways for supervising working conditions, promoting the safety and health of workers, and providing education in the health and safety fields. It should be particularly useful for developing countries.

With a view to making the work fully international and as complete as possible, a meeting was held at Geneva in 1966, in which 25 experts representing 15 countries and a number of international and regional organisations, examined the list of articles, their structure and the criteria for their compilation.

The new Encyclopaedia will be in two large bound volumes totalling 1,500 pages. It will comprise 900 articles in alphabetical order, black and white and coloured illustrations, bibliographies and appendices. To begin with it will be published in English and French. Volume I of the English version will be ready before the end of 1971 and Volume II early in 1972. The French version will be printed subsequently.

Symposia and Congresses

Promotion of exchanges of scientific and technical knowledge between countries is among the tasks for which the ILO is particularly well fitted. Such exchanges are most fruitful when they take place at international symposia and congresses.

Every year the ILO organises one or two symposia on specific topics in the field of occupational safety and health. Recent symposia have discussed radiological protection in the mining and milling of radioactive ores (in collaboration with the IAEA and the WHO); ergonomics in machine design (in collaboration with the Czechoslovak authorities); the safety of portable and mobile electric tools and appliances (with the International Centre for Advanced

Technical and Vocational Training and the International Electrotechnical Commission); ergonomics and environmental factors (with the Ente Nazionale Prevenzione Infortuni); and safety in the erection of prefabricated buildings (also with the ENPI).

World Congresses on the Prevention of Occupational Accidents and Diseases, also highly important events, are organised at regular intervals with the help of the ILO and collaboration of the ISSA.

Lastly, on the occasion of its 50th anniversary in 1969, the ILO held an international congress on occupational safety and health which provided safety experts with a forum for the discussion of technical problems.

Audio-Visual Material

The ILO has built up a collection of occupational safety and health films which persons and institutions may borrow free of charge. It has also issued sets of posters particularly suitable for use in developing countries. These, too, are available on request.

Since 1951 the ILO has been publishing a *Catalogue of Occupational Safety and Health Films* which is periodically revised. This publication furnishes information on films produced in different countries on matters such as accident prevention, improvement of working conditions, and measures against occupational diseases and poisonings. The particulars given for each film include contents and showing time.

International Occupational Safety and Health Information Centre

The International Occupational Safety and Health Information Centre—better known as the CIS—is a voluntary, co-operative scheme established in 1959 by the ILO with the support of various national and international bodies which are active in the field of occupational safety and health.

Its essential aim is to ensure more extensive, more systematic and speedier collection, distribution and utilisation of all valuable information relating to the many facets of occupational safety and health in all branches of economic activity (manufacturing, mining, building and civil engineering, agriculture, transport, public services, etc.).

The CIS relies on national institutions—the CIS National Centres—to collect, scrutinise and abstract all relevant information which is becoming available in their own country. At the present time, 33 national centres in 32 countries are transmitting abstracts and documents to Geneva. The task of the CIS headquarters is essentially to co-ordinate, translate, classify and disseminate this information with the minimum delay.

The information service provided by CIS includes about 2,200 abstracts a year (published both in card and bulletin form), information sheets and bibliographies on subjects of topical interest, access through its reprographic service to any articles which have been abstracted, information on translations that have been produced.

The CIS, which operates within the framework of the International Labour Office in Geneva and which enjoys the support of the Commission of the European Communities and the World Health Organization, endeavours to fulfil the needs of the plant manager, the safety engineer, the industrial physician, the labour inspector, the trade union official and the research worker, for up-to-date information on every aspect of accident prevention and health protection, by informing them periodically of the issue of reports and specialised publications of all descriptions, books and periodicals, laws and regulations,

standards, codes of practice, proceedings of meetings and any other material which may be of practical interest to them.

Every CIS abstract contains the title and bibliographical reference of the relevant document, a mention of the originating institution and a code which corresponds to a faceted classification scheme which has been specially devised by the CIS to meet the documentation requirements in the field of occupational safety and health. A Guide introduces the user to the CIS classification. Each item of information is published only once, but the necessary cross-references are provided by means of an alphabetical subject index brought up to date periodically.

Since the CIS is intended as a service to the public, the subscription rate has been fixed at the lowest amount compatible with the sound management of a non-profit making institution. In 1971 the CIS had over 18,000 users in 119 countries and territories.

Additional information about the CIS and free specimen copies of its publications will be sent upon request.

IDP 18-1964	CIS 723-1964	Bod Gcc	BUVA 18-1964	CIS 1025-1964	Buz Hfiz Sjz (626)
<p>Research on the occupational exposure of workers using radioactive paints in Polish industry (Badania nad ekspozycją zawodową przy pracy z farbami promieniotwórczymi w przemyśle polskim). Brykalski, D., Ciochanowska, W., Depczyk, D., Gawroński, A., Lisowski, J., Różycki, C., and Spodziekiwicz, T. "Złoty przemysł", Warszawa, Poland, 1963, Vol. 14, No. 4, pp. 297-312. Illus. 32 bibl. refs.</p>			<p>Ways to increase safety in low-voltage distribution equipment (Maßnahmen zur Steigerung der Unfallfreiheit von Niederspannungs-Schaltanlagen). Metzger, F. "Elektrotechnik", Goldsch, Switzerland, 13 April 1964, Vol. 64, No. 71-83. Illus.</p>		
<p>Description of the results of medical examinations carried out on 250 workers exposed to radioactive paints in Polish industry. Analysis of excrement and expired air revealed unusual Ra226 or Sr90 contamination, or both, in 65 subjects. In no case did the estimated body burden exceed the maximum permissible level. These</p>			<p>Analysis of accidents occurring with heavy current electrical equipment reveals that safety equipment and faulty design of materials, badly designed controls, inadequate instructions for the design and practical experience, the author states.</p>		
USLEB 30-1963	CIS 766-1964	Gxx Lz Szaz	ADL 26-1964	CIS 676-1964	Yom
<p>Hazardous chemicals data 1963. NFPA No. 48M, National Fire Protection Association, Boston, Mass., USA, June 1963. 102 pp. Price: US \$1.50.</p>			<p>Cost of accidents in a Victorian building materials factory. Howard, W. A. "Practice Bulletin", Melbourne, Vic., Australia, December 1963, Vol. 1, pp. 23-32. 1 bibl. ref.</p>		
<p>The substances listed in this publication are presented in such a way as to provide information on their hazardous properties in fire fighting phases in order to enable fire fighting methods to be improved. The data are of value to fire fighting units and this 1963 edition includes amendments to the "fire fighting methods" of ethylene, butadiene, calcium hypochlorite, ethyl chloride, and styrene monomers. Other hazardous materials include benzoyl peroxide and benzoyl peroxide.</p>			<p>A report on the application of the concept and method of costing industrial accidents described on CIS 94-1964. Yom, during a study conducted over a period of 4 months in a Victorian factory manufacturing building materials. At the time of the study 400 people, the majority of whom were migrants, 4 types of accidents were recorded: fire-related cases, doctors' cases, lost-time cases, and no injury and no equipment damaged, and medical cases.</p>		
INS 98-1964	CIS 870-1964	Pym	BIA 22-1964	CIS 783-1964	Dubz Qks Qkw
<p>Use of anthropometric data in the design of workplaces. (L'utilisation des données anthropométriques dans la conception des postes de travail). Wisner, A. "Travail humain", Paris, France, July-December 1963, Vol. 1, No. 4, pp. 193-217. Illus. 44 bibl. refs.</p>			<p>Fire requirements for mine equipment made of synthetic resins (Brandtechnische Anforderungen an Betriebsmittel aus Kunststoff). Gumbrecht, K. "Glückauf", Essen, Germany (Fed. Rep.), 24 April 1963, Vol. 99, No. 9, pp. 470-473. Illus. 3 bibl. refs.</p>		
<p>Following criticism of existing workplaces, the authors review recent publications and try to improve them by trial-and-error methods and by means of anthropometric data.</p>			<p>Following criticism of existing workplaces, the authors review recent publications and try to improve them by trial-and-error methods and by means of anthropometric data.</p>		

Publications

Among earlier publications of the ILO special mention may be made of the *Industrial Safety Survey*. It appeared from 1925 to 1951, when it became *Occupational Safety and Health*. This was replaced in 1960 by the documentation of the Occupational Safety and Health Information Centre (see pages 48-49). Several offprints of leading articles in *Occupational Safety and Health* are still available.

A *Bibliography of Industrial Hygiene* was published from 1923 to 1941. Publication was resumed in 1948 under the title *Bibliography of Occupational Medicine* but was discontinued in 1951.

A volume of 1,700 pages on *Safety in Factories* dealing with the law and practice on the subject in a number of countries was published in 1949, and a similar study on *Safety in Coal Mines* was published in two volumes in 1955.

National legislative texts are regularly published in English, French and Spanish in the *Legislative Series*.

Model Codes

Model Code of Safety Regulations for Industrial Establishments for the Guidance of Governments and Industry, (1949).

Model Code of Safety Regulations for Underground Work in Coal Mines for the Guidance of Governments and of the Coal-Mining Industry, (1950).

Codes of Practice

Safety and Health in Dock Work, (1958).

Prevention of Accidents Due to Fires Underground in Coal Mines, (1959).

Prevention of Accidents Due to Electricity Underground in Coal Mines, (1959).

Safety and Health in Agricultural Work, (1965).

Radiation Protection in the Mining and Milling of Radioactive Ores, (1968).

Safety and Health in Forestry Work (1969).

Guides and Manuals

Manual of Industrial Radiation Protection:

Part I: Convention and Recommendation concerning the Protection of Workers Against Ionising Radiations, (1963).

Part II: Model Code of Safety Regulations concerning Ionising Radiations, (1963).

Part III: General Guide on Protection Against Ionising Radiations, (1963).

Part IV: Guide on Protection Against Ionising Radiations in Industrial Radiography and Fluoroscopy, (1964).

Part V: Guide on Protection Against Ionising Radiations in the Application of Luminous Compounds, (1964).

Part VI: Code of Practice on Radiation Protection in the Mining and Milling of Radioactive Ores, (1968).

Guide to the Prevention and Suppression of Dust on Mining, Tunnelling and Quarrying (1965).

Guide to Safety and Health in Forestry Work, (1968).

Guide to Safety in Agriculture (1969).

Occupational Safety and Health Series

- No. 1: *Occupational Health Problems in Agriculture* (Report of the Fourth Session of the Joint ILO/WHO Committee on Occupational Health and Related Papers, 1963).
- No. 2: *The Medical Inspection of Labour* (Report of the International Symposium on the Medical Inspection of Labour and Related Papers, 1964).
- No. 3: *Adaptation of Work to Man and Occupational Health Problems in Countries undergoing Industrial Development, (1964).*
- No. 4: *Man at Work - Studies of the Application of Physiology to working Conditions in a Sub-Tropical Country*, by E. Hohwü Christensen (1964).
- No. 5: *Maximum Permissible Weight to be carried by One Worker* (Report of a meeting of experts and related papers, 1964).
- No. 6: *Respiratory Function Tests in Pneumoconiosis* (Report of a meeting of experts and related papers, 1965).
- No. 7: *The Organisation of Occupational Health Services in Developing Countries* (Report of a meeting of experts and related papers, 1967).
- No. 8: *Course on Dust Prevention in Industry, (1967).*
- No. 9: *Dust Sampling in Mines: Review of Some Methods of Sampling, Examining and Analysing Mine Dusts-Comparison of Results Obtained and Criteria for the Estimation of Airborne Dust Levels with a View to Determining Maximum Permissible Concentrations, (1967).*
- No. 10: *Kinetic Methods of Manual Handling in Industry*, by S. Himbury, (1967).
- No. 11: *Course on Radiation Protection in Industry, (1967).*
- No. 12: *Benzene: Uses, Toxic Effects, Substitutes, (1968).*
- No. 13: *Official Services for Occupational Safety and Health, (1968).*
- No. 14: *Ergonomics in Machine Design, (1968).*
- No. 15: *Safety Training for Underground Mineworkers, (1968).*
- No. 16: *International Directory of Occupational Safety and Health Services and Institutions, (1969).*
- No. 17: *International Catalogue of Occupational Safety and Health Films (1969).*
- No. 18: *Electrical Safety: Portable Tools and Mobile Appliances (1969).*
- No. 19: *International Directory of Occupational Safety and Health Courses (1970).*
- No. 20: *Permissible Levels of Toxic Substances in the Working Environment (1970).*
- No. 21: *Ergonomics and Physical Environmental Factors.*
- No. 22: *International Classification of Radiographs of Pneumoconioses (Revised, 1968) (1970).*
- No. 23: *The Occupational Health Nurse (1970).*
- No. 24: *4th International Report on the Prevention and Suppression of Dust in Mining, Tunnelling and Quarrying (1970).*
- No. 25: *International Occupational Safety and Health Congress (Geneva, 30 June-4 July 1969) (1970) Vol. I. Main Reports.—Vol. II. Summaries.*

International Reports on the Prevention and Suppression of Dust in Mining, Tunnelling and Quarrying

- First Report, 1952-1954;
Second Report, 1955-1957;
Third Report, 1958-1962;
Fourth Report, 1963-1967 (See Occupational safety and Health Series, No. 24, above).

Reports of ILO Industrial Committees and Other Meetings

- Coal Mines Committee.
Sixth session (1956), Report II: *Safety in Coal Mines*;
Eighth Session (1964), Report II: *Dust Suppression in Coal Mines*.

Iron and Steel Committee.

Sixth Session (1957), Report II: *The Promotion of Safety in the Iron and Steel Industry.*
Seventh Session (1963), Report II: *Technological Developments and their Influence on the Structure of Remuneration, Organisation of Work and Safety in Iron and Steel Plants.*

Metal Trades Committee.

Seventh Session (1962), Report III: *Working Conditions and Safety in Ship-Building and Ship-Repairing.*

Textiles Committee.

Third Session (1950), Report III: *Safety of Workers in the Textile Industry.*

Chemical Industries Committee.

Second Session (1950), Report II: *Safety and Hygiene in the Chemical Industries;*
Fourth Session (1955), Report III: *Problems of Safety and Hygiene in the Chemical Industries: (a) Classification of dangerous substances; (b) Labelling of dangerous substances;*

Fifth Session (1958), Report III: *The Protection of Workers against Occupational Diseases and Poisoning;*

Sixth Session (1962), Report II: *Safe Practices by Audio-Visual Teaching Methods in the Chemical Industries.*

Advisory Committee on Salaried Employees and Professional Workers, Second Session (1952), Report II: *Hygiene in Shops and Offices.*

Tripartite Technical Meeting on Mines other than Coal Mines (1957), Report II: *Accident Prevention in Mines Other Than Coal Mines.*

Second Tripartite Technical Meeting for Mines other than Coal Mines (1968), Report III: *Measures—Particularly Training—Needed to Meet Safety and Health Requirements in Mines Other Than Coal Mines.*

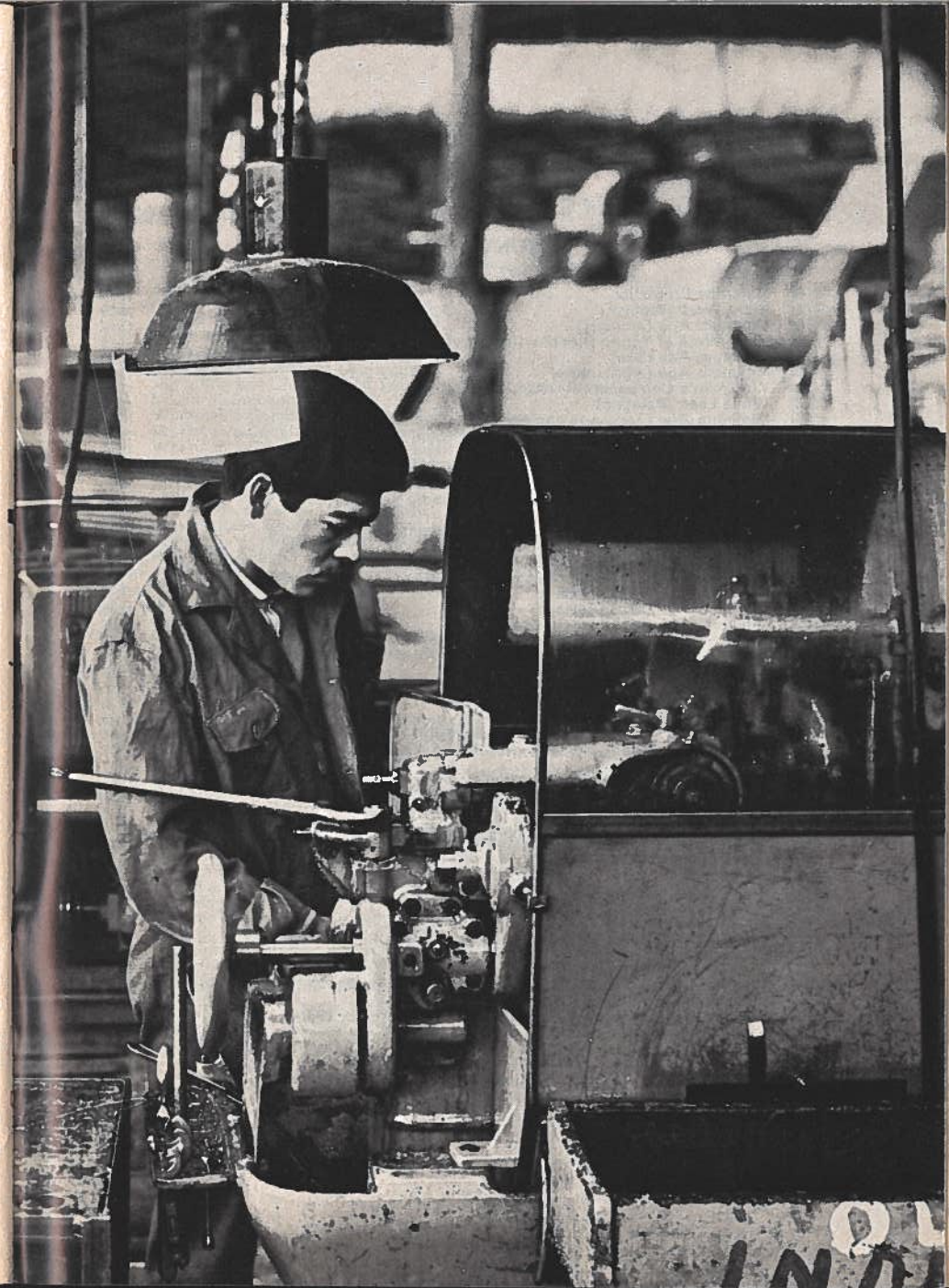
Tripartite Technical Meeting on the Timber Industry (1958), Report II: *Accident Prevention in the Timber Industry.*

Tripartite Technical Meeting for the Printing and Allied Trades (1962), Report III: *Protection of Workers' Health in the Printing and Allied Trades.*

Tripartite Technical Meeting for the Food Products and Drink Industries (1963); Report III: *Problems of Occupational Health and Safety in the Food Products and Drink Industries.*

Tripartite Technical Meeting for the Woodworking Industries (1967), Report III: *Safety, Health and Welfare in the Woodworking Industries.*

Ad Hoc Civil Aviation Meeting (1960), Report I: *Review of Conditions of Employment in Civil Aviation;* Report II: *Hours of Duty and Rest Periods of Flight Personnel.*



Instruments

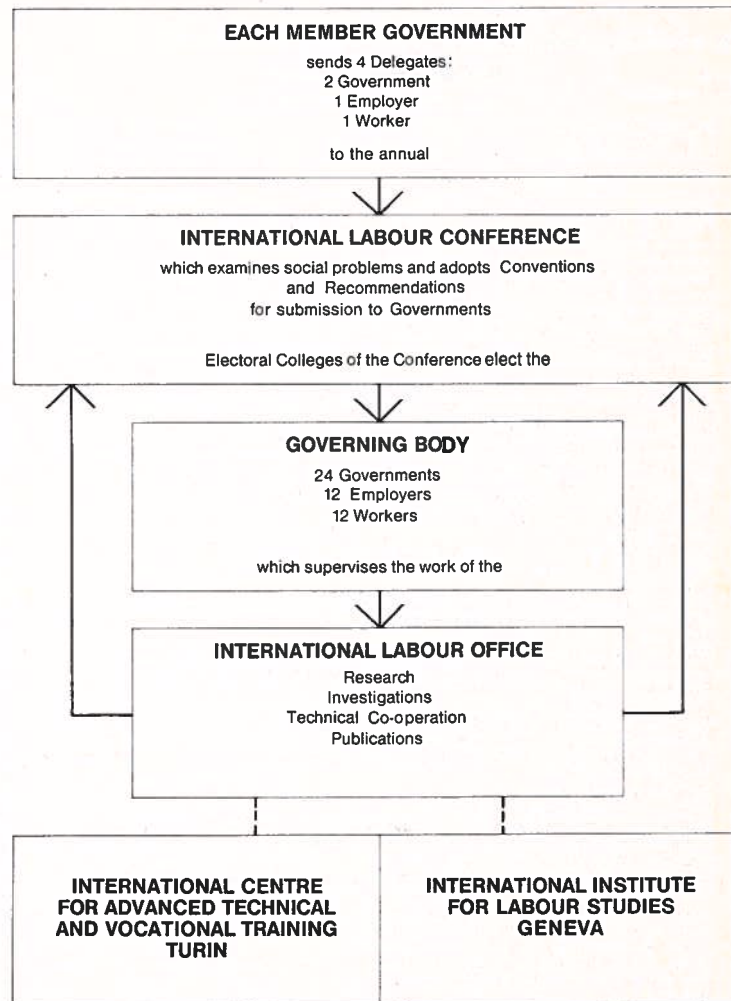
List of Conventions and Recommendations having

No. of Convention	CONVENTIONS Short Title of Convention	Year
3	Maternity Protection	1919
4	Night Work (Women)	1919
5	Minimum Age (Industry)	1919
6	Night Work of Young Persons (Industry)	1919
7	Minimum Age (Sea)	1920
10	Minimum Age (Agriculture)	1921
12	Workmen's Compensation (Agriculture)	1921
13	White Lead (Painting)	1921
15	Minimum Age (Trimmers and Stokers)	1921
16	Medical Examination of Young Persons (Sea)	1921
17	Workmen's Compensation (Accidents)	1925
18	Workmen's Compensation (Occupational Diseases)	1925
19	Equality of Treatment (Accident Compensation)	1925
27	Marking of Weight (Packages Transported by Vessels)	1929
28	Protection against Accidents (Dockers)	1929
32	Protection against Accidents (Dockers) (Revised)	1932
33	Minimum Age (Non-Industrial Employment)	1932
41	Night Work (Women) (Revised)	1934
42	Workmen's Compensation (Occupational Diseases) (Revised)	1934
45	Underground Work (Women)	1935
58	Minimum Age (Sea) (Revised)	1936
59	Minimum Age (Industry) (Revised)	1937
60	Minimum Age (Non-Industrial Employment) (Revised)	1937
62	Safety Provisions (Building)	1937
68	Food and Catering (Ships' Crews)	1946
73	Medical Examination (Seafarers)	1946
75	Accommodation of Crews	1946
77	Medical Examination of Young Persons (Industry)	1946
78	Medical Examination of Young Persons (Non-Industrial Occupations)	1946
79	Night Work of Young Persons (Non-Industrial Occupations)	1946
81	Labour Inspection	1947
82	Social Policy (Non-Metropolitan Territories)	1947
85	Labour Inspectorates (Non-Metropolitan Territories)	1947
89	Night Work (Women) (Revised)	1948
90	Night Work of Young Persons (Industry) (Revised)	1948
97	Migration for Employment (Revised)	1949
103	Maternity Protection (Revised)	1952
110	Plantations	1958
112	Minimum Age (Fishermen)	1959
113	Medical Examination (Fishermen)	1959
115	Radiation Protection	1960
117	Social Policy (Basic Aims and Standards)	1962
119	Guarding of Machinery	1963
120	Hygiene (Commerce and Offices)	1964
121	Benefits in Case of Industrial Accidents and Occupational Disease	1964
123	Minimum Age (Underground Work)	1965
124	Medical Examination of Young Workers (Underground Work)	1965
126	Accommodation of Crews (Fishermen)	1966
127	Maximum Weight	1967
129	Labour Inspection (Agriculture)	1969
133	Accommodation of Crews (Supplementary Provisions)	1970
134	Prevention of Accidents (Seafarers)	1970
136	Benzene	1971

a bearing on occupational safety and health

No. of Recommendation	RECOMMENDATIONS Short Title of Recommendation	Year
3	Anthrax Prevention	1919
4	Lead Poisoning (Women and Children)	1919
5	Labour Inspection (Health Services)	1919
6	White Phosphorus	1919
12	Maternity Protection (Agriculture)	1921
13	Night Work of Women (Agriculture)	1921
14	Night Work of Children and Young Persons (Agriculture)	1921
20	Labour Inspection	1923
22	Workmen's Compensation (Minimum Scale)	1925
23	Workmen's Compensation (Jurisdiction)	1925
24	Workmen's Compensation (Occupational Diseases)	1925
25	Equality of Treatment (Accident Compensation)	1925
26	Migration (Protection of Females at Sea)	1926
28	Labour Inspection (Seamen)	1926
31	Prevention of Industrial Accidents	1929
32	Power-driven Machinery	1929
33	Protection against Accidents (Dockers) Reciprocity	1929
34	Protection against Accidents (Dockers) Consultation of Organisations	1929
40	Protection against Accidents (Dockers) Reciprocity	1932
41	Minimum Age (Non-Industrial Employment)	1932
53	Safety Provisions (Building)	1937
54	Inspection (Building)	1937
55	Co-operation in Accident Prevention (Building)	1937
59	Labour Inspectorates (Indigenous Workers)	1939
69	Medical Care	1944
79	Medical Examination of Young Persons	1946
80	Night Work of Young Persons (Non-Industrial Occupations)	1946
81	Labour Inspection	1947
82	Labour Inspection (Mining and Transport)	1947
86	Migration for Employment (Revised)	1949
95	Maternity Protection	1952
96	Minimum Age of Admission to Work Underground in Coal Mines	1953
97	Protection of the Health of Workers in Places of Employment	1953
100	Protection of Migrant Workers (Underdeveloped Countries)	1955
102	Welfare Facilities	1956
105	Contents of Medicine Chests on Board Ships	1958
106	Medical Advice by Radio to Ships at Sea	1958
112	Occupational Health Services in Places of Employment	1959
114	Radiation Protection	1960
118	Guarding of Machinery	1963
120	Hygiene (Commerce and Offices)	1964
121	Benefits in Case of Industrial Accidents and Occupational Diseases	1964
123	Employment (Women with Family Responsibilities)	1965
124	Minimum Age (Underground Work)	1965
125	Conditions of Employment of Young Persons (Underground Work)	1965
128	Maximum Weight	1967
133	Labour Inspection (Agriculture)	1969
139	Employment of Seafarers (Technical Developments)	1970
140	Crew Accommodation (Air Conditioning)	1970
141	Crew Accommodation (Noise Control)	1970
142	Prevention of Accidents (Seafarers)	1970
144	Benzene	1971

INTERNATIONAL LABOUR ORGANISATION



**CONVENTION CONCERNING THE GUARDING
OF MACHINERY**

The General Conference of the International Labour Organisation,
Having been convened at Geneva by the Governing Body of the Inter-
national Labour Office, and having met in its Forty-seventh Session
on 5 June 1963, and

Having decided upon the adoption of certain proposals with regard to
the prohibition of the sale, hire and use of inadequately guarded
machinery, which is the fourth item on the agenda of the session,
and

Having determined that these proposals shall take the form of an
international Convention,

adopts this twenty-fifth day of June of the year one thousand nine hundred
and sixty-three the following Convention, which may be cited as the
Guarding of Machinery Convention, 1963 :

PART I. GENERAL PROVISIONS

Article 1

1. All power-driven machinery, new or second-hand, shall be consid-
ered as machinery for the purpose of the application of this Convention.

2. The competent authority in each country shall determine whether
and how far machinery, new or second-hand, operated by manual power
presents a risk of injury to the worker and shall be considered as machi-
nery for the purpose of the application of this Convention. Such decisions
shall be taken after consultation with the most representative organisa-
tions of employers and workers concerned. The initiative for such consul-
tation can be taken by any such organisation.

3. The provisions of this Convention—
(a) apply to road and rail vehicles during locomotion only in relation to
the safety of the operator or operators ;
(b) apply to mobile agricultural machinery only in relation to the safety
of workers employed in connection with such machinery.

**PART II. SALE, HIRE, TRANSFER IN ANY OTHER MANNER
AND EXHIBITION**

Article 2

1. The sale and hire of machinery of which the dangerous parts
specified in paragraphs 3 and 4 of this Article are without appropriate
guards shall be prohibited by national laws or regulations or prevented by
other equally effective measures.

2. The transfer in any other manner and exhibition of machinery of which the dangerous parts specified in paragraphs 3 and 4 of this Article are without appropriate guards shall, to such extent as the competent authority may determine, be prohibited by national laws or regulations or prevented by other equally effective measures: Provided that during the exhibition of machinery the temporary removal of the guards in order to demonstrate the machinery shall not be deemed to be an infringement of this provision as long as appropriate precautions to prevent danger to persons are taken.

3. All set-screws, bolts and keys, and, to the extent prescribed by the competent authority, other projecting parts of any moving part of machinery also liable to present danger to any person coming into contact with them when they are in motion, shall be so designed, sunk or protected as to prevent such danger.

4. All flywheels, gearing, cone and cylinder friction drives, cams, pulleys, belts, chains, pinions, worm gears, crank arms and slide blocks, and, to the extent prescribed by the competent authority, shafting (including the journal ends) and other transmission machinery also liable to present danger to any person coming into contact with them when they are in motion, shall be so designed or protected as to prevent such danger. Controls also shall be so designed or protected as to prevent danger.

Article 3

1. The provisions of Article 2 do not apply to machinery or dangerous parts thereof specified in that Article which—

- (a) are, by virtue of their construction, as safe as if they were guarded by appropriate safety devices; or
- (b) are intended to be so installed or placed that, by virtue of their installation or position, they are as safe as if they were guarded by appropriate safety devices.

2. The prohibition of the sale, hire, transfer in any other manner or exhibition of machinery provided for in paragraphs 1 and 2 of Article 2 does not apply to machinery by reason only of the machinery being so designed that the requirements of paragraphs 3 and 4 of that Article are not fully complied with during maintenance, lubrication, setting-up and adjustment, if such operations can be carried out in conformity with accepted standards of safety.

3. The provisions of Article 2 do not prohibit the sale or transfer in any other manner of machinery for storage, scrapping or reconditioning, but such machinery shall not be sold, hired, transferred in any other manner or exhibited after storage or reconditioning unless protected in conformity with the said provisions.

Article 4

The obligation to ensure compliance with the provisions of Article 2 shall rest on the vendor, the person letting out on hire or transferring the machinery in any other manner, or the exhibitor and, where appropriate under national laws or regulations, on their respective agents. This obli-

gation shall rest on the manufacturer when he sells machinery, lets it out on hire, transfers it in any other manner or exhibits it.

Article 5

1. Any Member may provide for a temporary exemption from the provisions of Article 2.

2. The duration of such temporary exemption, which shall in no case exceed three years from the coming into force of the Convention for the Member concerned, and any other conditions relating thereto, shall be prescribed by national laws or regulations or determined by other equally effective measures.

3. In the application of this Article the competent authority shall consult the most representative organisations of employers and workers concerned and, as appropriate, manufacturers' organisations.

PART III. USE

Article 6

1. The use of machinery any dangerous part of which, including the point of operation, is without appropriate guards shall be prohibited by national laws or regulations or prevented by other equally effective measures: Provided that where this prohibition cannot fully apply without preventing the use of the machinery it shall apply to the extent that the use of the machinery permits.

2. Machinery shall be so guarded as to ensure that national regulations and standards of occupational safety and hygiene are not infringed.

Article 7

The obligation to ensure compliance with the provisions of Article 6 shall rest on the employer.

Article 8

1. The provisions of Article 6 do not apply to machinery or parts thereof which, by virtue of their construction, installation or position, are as safe as if they were guarded by appropriate safety devices.

2. The provisions of Article 6 and Article 11 do not prevent the maintenance, lubrication, setting-up or adjustment of machinery or parts thereof carried out in conformity with accepted standards of safety.

Article 9

1. Any Member may provide for a temporary exemption from the provisions of Article 6.

2. The duration of such temporary exemption, which shall in no case exceed three years from the coming into force of the Convention for the Member concerned, and any other conditions relating thereto, shall be prescribed by national laws or regulations or determined by other equally effective measures.

3. In the application of this Article the competent authority shall consult the most representative organisations of employers and workers concerned.

Article 10

1. The employer shall take steps to bring national laws or regulations relating to the guarding of machinery to the notice of workers and shall instruct them, as and where appropriate, regarding the dangers arising and the precautions to be observed in the use of machinery.

2. The employer shall establish and maintain such environmental conditions as not to endanger workers employed on machinery covered by this Convention.

Article 11

1. No worker shall use any machinery without the guards provided being in position, nor shall any worker be required to use any machinery without the guards provided being in position.

2. No worker using machinery shall make inoperative the guards provided, nor shall such guards be made inoperative on any machinery to be used by any worker.

Article 12

The ratification of this Convention shall not affect the rights of workers under national social security or social insurance legislation.

Article 13

The provisions of this Part of this Convention relating to the obligations of employers and workers shall, if and in so far as the competent authority so determines, apply to self-employed workers.

Article 14

The term "employer" for the purpose of this Part of this Convention includes, where appropriate under national laws or regulations, a prescribed agent of the employer.

PART IV. MEASURES OF APPLICATION

Article 15

1. All necessary measures, including the provision of appropriate penalties, shall be taken to ensure the effective enforcement of the provisions of this Convention.

2. Each Member which ratifies this Convention undertakes to provide appropriate inspection services for the purpose of supervising the application of the provisions of the Convention, or to satisfy itself that appropriate inspection is carried out.

Article 16

Any national laws or regulations giving effect to the provisions of this Convention shall be made by the competent authority after consultation with the most representative organisations of employers and workers concerned and, as appropriate, manufacturers' organisations.

PART V. SCOPE

Article 17

1. The provisions of this Convention apply to all branches of economic activity unless the Member ratifying the Convention specifies a more limited application by a declaration appended to its ratification.

2. In cases where a declaration specifying a more limited application is made—

(a) the provisions of the Convention shall be applicable as a minimum to undertakings or branches of economic activity in respect of which the competent authority, after consultation with the labour inspection services and with the most representative organisations of employers and workers concerned, determines that machinery is extensively used; the initiative for such consultation can be taken by any such organisation;

(b) the Member shall indicate in its reports under article 22 of the Constitution of the International Labour Organisation any progress which may have been made with a view towards wider application of the provisions of this Convention.

3. Any Member which has made a declaration in pursuance of paragraph 1 of this Article may at any time cancel that declaration in whole or in part by a subsequent declaration.

PART VI. FINAL PROVISIONS

Article 18

The formal ratifications of this Convention shall be communicated to the Director-General of the International Labour Office for registration.

Article 19

1. This Convention shall be binding only upon those Members of the International Labour Organisation whose ratifications have been registered with the Director-General.

2. It shall come into force twelve months after the date on which the ratifications of two Members have been registered with the Director-General.

3. Thereafter, this Convention shall come into force for any Member twelve months after the date on which its ratification has been registered.

Article 20

1. A Member which has ratified this Convention may denounce it after the expiration of ten years from the date on which the Convention first comes into force, by an act communicated to the Director-General of the International Labour Office for registration. Such denunciation shall not take effect until one year after the date on which it is registered.

2. Each Member which has ratified this Convention and which does not, within the year following the expiration of the period of ten years mentioned in the preceding paragraph, exercise the right of denunciation provided for in this Article, will be bound for another period of ten years and, thereafter, may denounce this Convention at the expiration of each period of ten years under the terms provided for in this Article.

Article 21

1. The Director-General of the International Labour Office shall notify all Members of the International Labour Organisation of the registration of all ratifications and denunciations communicated to him by the Members of the Organisation.

2. When notifying the Members of the Organisation of the registration of the second ratification communicated to him, the Director-General shall draw the attention of the Members of the Organisation to the date upon which the Convention will come into force.

Article 22

The Director-General of the International Labour Office shall communicate to the Secretary-General of the United Nations for registration in accordance with article 102 of the Charter of the United Nations full particulars of all ratifications and acts of denunciation registered by him in accordance with the provisions of the preceding Articles.

Article 23

At such times as it may consider necessary the Governing Body of the International Labour Office shall present to the General Conference a report on the working of this Convention and shall examine the desirability of placing on the agenda of the Conference the question of its revision in whole or in part.

Article 24

1. Should the Conference adopt a new Convention revising this Convention in whole or in part, then, unless the new Convention otherwise provides—

- (a) the ratification by a Member of the new revising Convention shall *ipso jure* involve the immediate denunciation of this Convention, notwithstanding the provisions of Article 20 above, if and when the new revising Convention shall have come into force ;
- (b) as from the date when the new revising Convention comes into force this Convention shall cease to be open to ratification by the Members.

2. This Convention shall in any case remain in force in its actual form and content for those Members which have ratified it but have not ratified the revising Convention.

Article 25

The English and French versions of the text of this Convention are equally authoritative.

Convention 119

**CONVENTION CONCERNANT LA PROTECTION
DES MACHINES**

La Conférence générale de l'Organisation internationale du Travail,
Convoquée à Genève par le Conseil d'administration du Bureau interna-
tional du Travail, et s'y étant réunie le 5 juin 1963, en sa quarante-
septième session ;

Après avoir décidé d'adopter diverses propositions relatives à l'inter-
diction de la vente, de la location et de l'utilisation des machines
dépourvues de dispositifs de protection appropriés, question qui
constitue le quatrième point à l'ordre du jour de la session ;

Après avoir décidé que ces propositions prendraient la forme d'une
convention internationale,

adopte, ce vingt-cinquième jour de juin mil neuf cent soixante-trois, la
convention ci-après, qui sera dénommée Convention sur la protection des
machines, 1963 :

PARTIE I. DISPOSITIONS GÉNÉRALES

Article 1

1. Toutes les machines, neuves ou d'occasion, mues par une force autre
que la force humaine sont considérées comme des machines aux fins de
l'application de la présente convention.

2. L'autorité compétente dans chaque pays déterminera si et dans quelle
mesure des machines, neuves ou d'occasion, mues par la force humaine
présentent des dangers pour l'intégrité physique des travailleurs et doivent
être considérées comme des machines aux fins d'application de la présente
convention. Ces décisions seront prises après consultation des organisations
les plus représentatives d'employeurs et de travailleurs intéressés. L'ini-
tiative de la consultation peut être prise par l'une quelconque de ces organi-
sations.

3. Les dispositions de la présente convention :

- a) ne s'appliquent aux véhicules routiers ou se déplaçant sur rails, lorsqu'ils
sont en mouvement, que dans la mesure où la sécurité du personnel de
conduite est en cause ;
- b) ne s'appliquent aux machines agricoles mobiles que dans la mesure où
la sécurité des travailleurs dont l'emploi est en rapport avec ces machines
est en cause.

PARTIE II. VENTE, LOCATION, CESSION A TOUT AUTRE TITRE
ET EXPOSITION

Article 2

1. La vente et la location de machines dont les éléments dangereux, spécifiés aux paragraphes 3 et 4 du présent article, sont dépourvus de dispositifs de protection appropriés, doivent être interdites par la législation nationale ou empêchées par d'autres mesures tout aussi efficaces.

2. La cession à tout autre titre et l'exposition de machines dont les éléments dangereux, spécifiés aux paragraphes 3 et 4 du présent article, sont dépourvus de dispositifs de protection appropriés, doivent, dans la mesure déterminée par l'autorité compétente, être interdites par la législation nationale ou empêchées par d'autres mesures tout aussi efficaces. Toutefois, l'enlèvement provisoire, pendant l'exposition d'une machine, des dispositifs de protection, aux fins de démonstration, ne sera pas considéré comme une infraction à la présente disposition, à condition que les précautions appropriées soient prises pour protéger les personnes contre tout risque.

3. Tous les boulons, vis d'arrêt et clavettes, ainsi que telles autres pièces, formant saillie sur les parties mobiles des machines, qui seraient susceptibles également de présenter des dangers pour les personnes entrant en contact avec ces pièces — lorsque celles-ci sont en mouvement — et qui seraient désignées par l'autorité compétente, doivent être conçus, noyés ou protégés de façon à prévenir ces dangers.

4. Tous les volants, engrenages, cônes ou cylindres de friction, cames, poulies, courroies, chaînes, pignons, vis sans fin, bielles et coulisseaux, ainsi que les arbres (y compris leurs extrémités) et autres organes de transmission qui seraient susceptibles également de présenter des dangers pour les personnes entrant en contact avec ces éléments — lorsque ceux-ci sont en mouvement — et qui seraient désignés par l'autorité compétente, doivent être conçus ou protégés de façon à prévenir ces dangers. Les commandes des machines doivent être conçues ou protégées de façon à prévenir tout danger.

Article 3

1. Les dispositions de l'article 2 ne s'appliquent pas aux machines ou à leurs éléments dangereux spécifiés audit article qui :

- a) offrent, du fait de leur construction, une sécurité identique à celle que présenteraient des dispositifs de protection appropriés ;
- b) sont destinés à être installés ou placés de manière que, du fait de leur installation ou de leur emplacement, ils offrent une sécurité identique à celle que présenteraient des dispositifs de protection appropriés.

2. Des machines construites de telle façon que les conditions prévues aux paragraphes 3 et 4 de l'article 2 ne seraient pas pleinement remplies pendant les opérations d'entretien, de graissage, de changement des parties travaillantes et de réglage — à condition toutefois que ces opérations puissent être effectuées conformément aux normes usuelles de sécurité — ne seront pas, de ce simple fait, visées par l'interdiction de vente, de

location, de cession à tout autre titre ou d'exposition, prévue aux paragraphes 1 et 2 dudit article.

3. Les dispositions de l'article 2 ne font pas obstacle à la vente ni à la cession à tout autre titre de machines pour les entreposer, les mettre au rebut ou les remettre en état. Toutefois, ces machines ne doivent pas être vendues, louées, cédées à tout autre titre ou exposées, après leur entreposage ou leur remise en état, à moins qu'elles ne remplissent les conditions prévues à l'article 2.

Article 4

L'obligation d'appliquer les dispositions de l'article 2 doit incomber au vendeur, au loueur, à la personne qui cède la machine à tout autre titre ou à l'exposant, ainsi que, dans les cas appropriés, conformément à la législation nationale, à leurs mandataires respectifs. Le fabricant qui vend, loue, cède à tout autre titre ou expose des machines aura la même obligation.

Article 5

1. Tout Membre peut prévoir une dérogation temporaire aux dispositions de l'article 2.

2. Les conditions et la durée de cette dérogation temporaire, qui ne peut dépasser trois ans à partir de l'entrée en vigueur de la présente convention pour le Membre intéressé, doivent être déterminées par la législation nationale ou par d'autres mesures tout aussi efficaces.

3. Aux fins de l'application du présent article, l'autorité compétente doit consulter les organisations les plus représentatives d'employeurs et de travailleurs intéressés, ainsi que, le cas échéant, les organisations de fabricants.

PARTIE III. UTILISATION

Article 6

1. L'utilisation de machines dont l'un quelconque des éléments dangereux, y compris les parties travaillantes (zone d'opération), est dépourvu de dispositifs de protection appropriés, doit être interdite par la législation nationale ou empêchée par d'autres mesures tout aussi efficaces. Toutefois, lorsque cette interdiction ne peut être pleinement respectée sans empêcher l'utilisation de la machine, elle doit néanmoins s'appliquer dans toute la mesure où cette utilisation le permet.

2. Les machines doivent être protégées de façon que la réglementation et les normes nationales de sécurité et d'hygiène du travail soient respectées.

Article 7

L'obligation d'appliquer les dispositions de l'article 6 doit incomber à l'employeur.

Article 8

1. Les dispositions de l'article 6 ne s'appliquent pas aux machines ou aux éléments de machines qui, du fait de leur construction, de leur installa-

tion ou de leur emplacement, offrent une sécurité identique à celle que présenteraient des dispositifs de protection appropriés.

2. Les dispositions de l'article 6 et de l'article 11 ne font pas obstacle aux opérations d'entretien, de graissage, de changement des parties travaillantes ou de réglage des machines ou éléments de machines, effectuées conformément aux normes usuelles de sécurité.

Article 9

1. Tout Membre peut prévoir une dérogation temporaire aux dispositions de l'article 6.

2. Les conditions et la durée de cette dérogation temporaire, qui ne peut dépasser trois ans à partir de l'entrée en vigueur de la présente convention pour le Membre intéressé, doivent être déterminées par la législation nationale ou par d'autres mesures tout aussi efficaces.

3. Aux fins de l'application du présent article, l'autorité compétente doit consulter les organisations les plus représentatives d'employeurs et de travailleurs intéressés.

Article 10

1. L'employeur doit prendre des mesures pour mettre les travailleurs au courant de la législation nationale concernant la protection des machines et doit les informer, de manière appropriée, des dangers résultant de l'utilisation des machines, ainsi que des précautions à prendre.

2. L'employeur doit établir et maintenir des conditions d'ambiance telles que les travailleurs affectés aux machines visées par la présente convention ne courent aucun danger.

Article 11

1. Aucun travailleur ne doit utiliser une machine sans que les dispositifs de protection dont elle est pourvue soient en place. Il ne pourra être demandé à aucun travailleur d'utiliser une machine sans que les dispositifs de protection dont elle est pourvue soient en place.

2. Aucun travailleur ne doit rendre inopérants les dispositifs de protection dont est pourvue la machine qu'il utilise. Les dispositifs de protection dont est pourvue une machine destinée à être utilisée par un travailleur ne doivent pas être rendus inopérants.

Article 12

La ratification de la présente convention n'affectera pas les droits qui découlent pour les travailleurs des législations nationales de sécurité sociale ou d'assurances sociales.

Article 13

Les dispositions de la présente partie de la convention qui ont trait aux obligations des employeurs et des travailleurs s'appliquent, si l'autorité compétente en décide ainsi et dans la mesure fixée par elle, aux travailleurs indépendants.

Article 14

Aux fins de l'application de la présente partie de la convention, le terme « employeur » désigne également, le cas échéant, le mandataire de l'employeur au sens où l'entend la législation nationale.

PARTIE IV. MESURES D'APPLICATION

Article 15

1. Toutes mesures nécessaires, y compris des mesures prévoyant des sanctions appropriées, doivent être prises en vue d'assurer l'application effective des dispositions de la présente convention.

2. Tout Membre qui ratifie la présente convention s'engage à charger des services d'inspection appropriés du contrôle de l'application de ses dispositions, ou à vérifier qu'une inspection adéquate est assurée.

Article 16

Toute législation nationale donnant effet aux dispositions de la présente convention doit être élaborée par l'autorité compétente après consultation des organisations les plus représentatives d'employeurs et de travailleurs intéressés, ainsi que, le cas échéant, des organisations de fabricants.

PARTIE V. CHAMP D'APPLICATION

Article 17

1. Les dispositions de la présente convention s'appliquent à tous les secteurs d'activité économique, à moins que le Membre ratifiant la convention n'en restreigne l'application par une déclaration annexée à sa ratification.

2. Dans le cas d'une déclaration restreignant ainsi l'application des dispositions de la présente convention :

a) les dispositions de la convention doivent s'appliquer au moins aux entreprises ou aux secteurs d'activité économique que l'autorité compétente, après consultation des services de l'inspection du travail et des organisations les plus représentatives d'employeurs et de travailleurs intéressés, considère comme utilisant des machines dans une mesure importante ; l'initiative de la consultation peut être prise par l'une quelconque desdites organisations ;

b) le Membre doit indiquer, dans ses rapports à soumettre en vertu de l'article 22 de la Constitution de l'Organisation internationale du Travail, quels ont été les progrès réalisés en vue d'une plus large application des dispositions de la convention.

3. Tout Membre qui a fait une déclaration conformément au paragraphe 1 ci-dessus peut, en tout temps, l'annuler totalement ou partiellement, par une déclaration ultérieure.

PARTIE VI. DISPOSITIONS FINALES

Article 18

Les ratifications formelles de la présente convention seront communiquées au Directeur général du Bureau international du Travail et par lui enregistrées.

Article 19

1. La présente convention ne liera que les Membres de l'Organisation internationale du Travail dont la ratification aura été enregistrée par le Directeur général.

2. Elle entrera en vigueur douze mois après que les ratifications de deux Membres auront été enregistrées par le Directeur général.

3. Par la suite, cette convention entrera en vigueur pour chaque Membre douze mois après la date où sa ratification aura été enregistrée.

Article 20

1. Tout Membre ayant ratifié la présente convention peut la dénoncer à l'expiration d'une période de dix années après la date de la mise en vigueur initiale de la convention, par un acte communiqué au Directeur général du Bureau international du Travail et par lui enregistré. La dénonciation ne prendra effet qu'une année après avoir été enregistrée.

2. Tout Membre ayant ratifié la présente convention qui, dans le délai d'une année après l'expiration de la période de dix années mentionnée au paragraphe précédent, ne fera pas usage de la faculté de dénonciation prévue par le présent article sera lié pour une nouvelle période de dix années et, par la suite, pourra dénoncer la présente convention à l'expiration de chaque période de dix années dans les conditions prévues au présent article.

Article 21

1. Le Directeur général du Bureau international du Travail notifiera à tous les Membres de l'Organisation internationale du Travail l'enregistrement de toutes les ratifications et dénonciations qui lui seront communiquées par les Membres de l'Organisation.

2. En notifiant aux Membres de l'Organisation l'enregistrement de la deuxième ratification qui lui aura été communiquée, le Directeur général appellera l'attention des Membres de l'Organisation sur la date à laquelle la présente convention entrera en vigueur.

Article 22

Le Directeur général du Bureau international du Travail communiquera au Secrétaire général des Nations Unies, aux fins d'enregistrement, conformément à l'article 102 de la Charte des Nations Unies, des renseignements complets au sujet de toutes ratifications et de tous actes de dénonciation qu'il aura enregistrés conformément aux articles précédents.

Article 23

Chaque fois qu'il le jugera nécessaire, le Conseil d'administration du Bureau international du Travail présentera à la Conférence générale un

rapport sur l'application de la présente convention et examinera s'il y a lieu d'inscrire à l'ordre du jour de la Conférence la question de sa révision totale ou partielle.

Article 24

1. Au cas où la Conférence adopterait une nouvelle convention portant révision totale ou partielle de la présente convention, et à moins que la nouvelle convention ne dispose autrement :

- a) la ratification par un Membre de la nouvelle convention portant révision entraînerait de plein droit, nonobstant l'article 20 ci-dessus, dénonciation immédiate de la présente convention, sous réserve que la nouvelle convention portant révision soit entrée en vigueur ;
- b) à partir de la date de l'entrée en vigueur de la nouvelle convention portant révision, la présente convention cesserait d'être ouverte à la ratification des Membres.

2. La présente convention demeurerait en tout cas en vigueur dans sa forme et teneur pour les Membres qui l'auraient ratifiée et qui ne ratifieraient pas la convention portant révision.

Article 25

Les versions française et anglaise du texte de la présente convention font également foi.