

INTERNATIONAL LABOUR OFFICE

REPORT FORM

FOR THE

**SAFETY AND HEALTH IN CONSTRUCTION
CONVENTION, 1988 (No. 167)**

The present report form is for the use of countries which have ratified the Convention. It has been approved by the Governing Body of the International Labour Office, in accordance with article 22 of the ILO Constitution, which reads as follows: "Each of the Members agrees to make an annual report to the International Labour Office on the measures which it has taken to give effect to the provisions of Conventions to which it is a party. These reports shall be made in such a form and shall contain such particulars as the Governing Body may request."

The Government may deem it useful to consult the appended text of the Safety and Health in Construction Recommendation, 1988 (No. 175), the provisions of which supplement the present Convention and can contribute to a better understanding of its requirements and facilitate its application.

PRACTICAL GUIDANCE FOR DRAWING UP REPORTS

First reports

If this is your Government's first report following the entry into force of the Convention in your country, full information should be given on each of the provisions of the Convention and on each of the questions set out in the report form.

(b) replies to the questions in the report form on the practical application of the Convention (for example, statistics, results of inspections, judicial or administrative decisions) and on the communication of copies of the report to the representative organisations of employers and workers and on any observations received from these organisations;

Subsequent reports

In subsequent reports, information need normally be given only on the following points:

(a) any new legislative or other measures affecting the application of the Convention;

(c) replies to comments by supervisory bodies: the report must contain replies to any comments regarding the application of the Convention in your country which may have been addressed to your Government by the Committee of Experts or by the Conference Committee on the Application of Conventions and Recommendations.

Article 22 of the Constitution of the ILO

Report for the period to
made by the Government of

on the

SAFETY AND HEALTH IN CONSTRUCTION CONVENTION, 1988 (No. 167)

(ratification registered on

I. Please give a list of the laws and regulations, technical standards, codes of practice or other documents which apply the provisions of the Convention. Where this has not already been done, please forward copies of the said laws and regulations, etc., to the International Labour Office with this report.

Please give any available information concerning the extent to which the above-mentioned texts have been enacted or modified to permit, or as a result of, ratification.

II. Please indicate in detail, under each of the following Articles of the Convention, the above-mentioned measures which give effect to the Article. In addition, please provide any indications specifically requested below under individual Articles.

If in your country ratification of the Convention gives the force of national law to its terms, please indicate by virtue of what constitutional provisions the ratification has had this effect. Please also specify what action has been taken to make effective those provisions of the Convention which require a national authority to take certain steps for its implementation, such as the adoption of measures to define the exact scope of the Convention, to specify the persons responsible for compliance with its requirements, to draw the attention of the parties concerned to the provisions of the Convention, to institute arrangements for adequate inspection and penalties, and to consult the employers' and workers' organisations concerned in implementing certain provisions.

If the Committee of Experts or the Conference Committee on the Application of Conventions and Recommendations have requested additional information or have made an observation on the measures adopted to apply the Convention, please supply the information asked for or indicate the action taken by your Government to settle the points in question.

I. SCOPE AND DEFINITIONS

Article 1

1. This Convention applies to all construction activities, namely building, civil engineering, and erection and dismantling work, including any process, operation or transport on a construction site, from the preparation of the site to the completion of the project.

2. A Member ratifying this Convention may, after consulting with the most representative organisations of employers and workers concerned, where they exist, exclude from the application of the Convention, or certain provisions thereof, particular branches of economic activity or particular undertakings in respect of which special problems of a substantial nature arise, on condition that a safe and healthy working environment is maintained.

3. This Convention also applies to such self-employed persons as may be specified by national laws or regulations.

1. *Please indicate the provisions which ensure that the Convention applies to all activities referred to in paragraph 1 and such persons referred to in paragraph 3.*

2. *If recourse has been had to paragraph 2, please indicate the branches of economic activity or undertakings excluded from the application of the Convention, and the reasons for the exclusion.*

Article 2

For the purpose of this Convention:

- (a) The term "construction" covers:
 - (i) building, including excavation and the construction, structural alteration, renovation, repair, maintenance (including cleaning and painting) and demolition of all types of buildings or structures;
 - (ii) civil engineering, including excavation and the construction, structural alteration, repair, maintenance and demolition of, for example, airports, docks, harbours, inland waterways, dams, river and avalanche and sea defence works, roads and highways, railways, bridges, tunnels, viaducts and works related to the provision of services such as communications, drainage, sewerage, water and energy supplies;
 - (iii) the erection and dismantling of prefabricated buildings and structures, as well as the manufacturing of prefabricated elements on the construction site;
- (b) the term "construction site" means any site at which any of the processes or operations described in subparagraph (a) above are carried on;
- (c) the term "workplace" means all places where workers need to be or to go by reason of their work and which are under the control of an employer as defined in subparagraph (e) below;
- (d) the term "worker" means any person engaged in construction;
- (e) the term "employer" means:
 - (i) any physical or legal person who employs one or more workers on a construction site; and
 - (ii) as the context requires, the principal contractor, the contractor or the subcontractor;
- (f) the term "competent person" means a person possessing adequate qualifications, such as suitable training and sufficient knowledge, experience and skill for the safe performance of the specific work. The competent authorities may define appropriate criteria for the designation of such persons and may determine the duties to be assigned to them;
- (g) the term "scaffold" means any temporary structure, fixed, suspended or mobile, and its supporting components which is used for supporting workers and materials or to gain access to any such structure, and which is not a "lifting appliance" as defined in subparagraph (h) below;
- (h) the term "lifting appliance" means any stationary or mobile appliance used for raising or lowering persons or loads;
- (i) the term "lifting gear" means any gear or tackle by means of which a load can be attached to a lifting appliance but which does not form an integral part of the appliance or load.

II. GENERAL PROVISIONS

Article 3

The most representative organisations of employers and workers concerned shall be consulted on the measures to be taken to give effect to the provisions of this Convention.

Please describe the manner in which the most representative organisations of employers and workers concerned were consulted.

Article 4

Each Member which ratifies this Convention undertakes that it will, on the basis of an assessment of the safety and health hazards involved, adopt and maintain in force laws or regulations which ensure the application of the provisions of the Convention.

Please indicate how the assessment required in this Article is made.

Article 5

1. The laws and regulations adopted in pursuance of Article 4 above may provide for their practical application through technical standards or codes of practice, or by other appropriate methods consistent with national conditions and practice.
2. In giving effect to Article 4 above and to paragraph 1 of this Article, each Member shall have due regard to the relevant standards adopted by recognised international organisations in the field of standardisation.
 1. *Please indicate the technical standards or codes of practice or other methods which have been adopted under paragraph 1.*
 2. *Please indicate the relevant standards which have been taken into consideration.*

Article 6

Measures shall be taken to ensure that there is co-operation between employers and workers, in accordance with arrangements to be defined by national laws and regulations, in order to promote safety and health at construction sites.

Please describe the arrangements whereby co-operation between employers and workers is ensured.

Article 7

National laws or regulations shall require that employers and self-employed persons have a duty to comply with the prescribed safety and health measures at the workplace.

Article 8

1. Whenever two or more employers undertake activities simultaneously at one construction site —

- (a) the principal contractor or other person or body with actual control over or primary responsibility for overall construction site activities, shall be responsible for co-ordinating the prescribed safety and health measures and in so far as is compatible with national laws and regulations for ensuring compliance with such measures;
- (b) in so far as is compatible with national laws and regulations, where the principal contractor or other person or body with actual control over or primary responsibility for overall construction site activities is not present at the site, he shall nominate a competent person or body at the site with the authority and means necessary to ensure on his behalf co-ordination and compliance with the measures as foreseen in subparagraph (a) above;
- (c) each employer shall remain responsible for the application of the prescribed measures in respect of the workers placed under his authority.

2. Whenever employers or self-employed persons undertake activities simultaneously at one construction site they shall have the duty to co-operate in the application of the prescribed safety and health measures, as may be specified by national laws or regulations.

Please indicate the measures which have been taken to give effect to this Article.

Article 9

Those concerned with the design and planning of a construction project shall take into account the safety and health of the construction workers in accordance with national laws, regulations and practice.

Please specify the national laws, regulations and practice whereby effect is given to this Article.

Article 10

National laws or regulations shall provide that workers shall have the right and the duty at any workplace to participate in ensuring safe working conditions to the extent of their control over the equipment and methods of work and to express views on the working procedures adopted as they may affect safety and health.

Please indicate the national laws or regulations whereby the right and the duty provided for in this Article are assured.

Article 11

National laws or regulations shall provide that workers shall have the duty to —

- (a) co-operate as closely as possible with their employer in the application of the prescribed safety and health measures;
- (b) take reasonable care for their own safety and health and that of other persons who may be affected by their acts or omissions at work;
- (c) use facilities placed at their disposal and not misuse anything provided for their own protection or the protection of others;
- (d) report forthwith to their immediate supervisor, and to the workers' safety representative where one exists, any situation which they believe could present a risk, and which they cannot properly deal with themselves;
- (e) comply with the prescribed safety and health measures.

Please indicate the national laws or regulations whereby effect is given to the various subparagraphs of this Article.

Article 12

1. National laws or regulations shall provide that a worker shall have the right to remove himself from danger when he has good reason to believe that there is an imminent and serious danger to his safety or health, and the duty so to inform his supervisor immediately.

2. Where there is an imminent danger to the safety of workers the employer shall take immediate steps to stop the operation and evacuate workers as appropriate.

1. *Please indicate the national laws or regulations whereby the right and the duty provided for in paragraph 1 are assured.*

2. *Please indicate how effect is given to paragraph 2.*

III. PREVENTIVE AND PROTECTIVE MEASURES

Article 13

SAFETY OF WORKPLACES

1. All reasonable precautions shall be taken to ensure that all workplaces are safe and without risk of injury to the safety and health of workers.

2. Safe means of access to and egress from all workplaces shall be provided and maintained, and indicated where appropriate.

3. All appropriate precautions shall be taken to protect persons present at or in the vicinity of a construction site from all risks which may arise from such site.

Article 14

SCAFFOLDS AND LADDERS

1. Where work cannot safely be done on or from the ground or from part of a building or other permanent structure, a safe and suitable scaffold shall be provided and maintained, or other equally safe and suitable provision shall be made.

2. In the absence of alternative safe means of access to elevated working places, suitable and sound ladders shall be provided. They shall be properly secured against inadvertent movement.

3. All scaffolds and ladders shall be constructed and used in accordance with national laws and regulations.

4. Scaffolds shall be inspected by a competent person in such cases and at such times as shall be prescribed by national laws or regulations.

Please describe the provisions governing the inspection of scaffolds.

Article 15

LIFTING APPLIANCES AND GEAR

1. Every lifting appliance and item of lifting gear, including their constituent elements, attachments, anchorages and supports, shall —

- (a) be of good design and construction, sound material and adequate strength for the purpose for which they are used;
- (b) be properly installed and used;
- (c) be maintained in good working order;
- (d) be examined and tested by a competent person at such times and in such cases as shall be prescribed by national laws or regulations: the results of these examinations and tests shall be recorded;
- (e) be operated by workers who have received appropriate training in accordance with national laws and regulations.

2. No person shall be raised, lowered or carried by a lifting appliance unless it is constructed, installed and used for that purpose in accordance with national laws and regulations, except in an emergency situation in which serious personal injury or fatality may occur, and for which the lifting appliance can be safely used.

1. *Please describe the provisions governing the examination and testing of lifting appliances and gear.*

2. *Please indicate how training is provided in accordance with paragraph 1 (e).*

Article 16

TRANSPORT, EARTH-MOVING AND MATERIALS-HANDLING EQUIPMENT

1. All vehicles and earth-moving or materials-handling equipment shall —
 - (a) be of good design and construction taking into account as far as possible ergonomic principles;
 - (b) be maintained in good working order;
 - (c) be properly used;
 - (d) be operated by workers who have received appropriate training in accordance with national laws and regulations.
2. On all construction sites on which vehicles, earth-moving or materials-handling equipment are used —
 - (a) safe and suitable access ways shall be provided for them; and
 - (b) traffic shall be so organised and controlled as to secure their safe operation.

Please indicate how training is provided in accordance with paragraph 1 (d).

Article 17

PLANT, MACHINERY, EQUIPMENT AND HAND TOOLS

1. Plant, machinery and equipment, including hand tools, both manual and power driven, shall —
 - (a) be of good design and construction, taking into account as far as possible ergonomic principles;
 - (b) be maintained in good working order;
 - (c) be used only for work for which they have been designed unless a use outside the initial design purposes has been assessed by a competent person who has concluded that such use is safe;
 - (d) be operated by workers who have received appropriate training.
2. Adequate instructions for safe use shall be provided where appropriate by the manufacturer or the employer in a form understood by the users.
3. Pressure plant and equipment shall be examined and tested by a competent person in cases and at times prescribed by national laws or regulations.

1. Please indicate how training is provided in accordance with paragraph 1 (d).

2. Please describe the provisions governing the examination and testing of pressure plant and equipment.

Article 18

WORK AT HEIGHTS INCLUDING ROOFWORK

1. Where necessary to guard against danger, or where the height of a structure or its slope exceeds that prescribed by national laws or regulations, preventive measures shall be taken against the fall of workers and tools or other objects or materials.
2. Where workers are required to work on or near roofs or other places covered with fragile material, through which they are liable to fall, preventive measures shall be taken against their inadvertently stepping on or falling through the fragile material.

Please indicate the height or slope which has been prescribed and describe the preventive measures which must be taken.

Article 19

EXCAVATIONS, SHAFTS, EARTHWORKS, UNDERGROUND WORKS AND TUNNELS

Adequate precautions shall be taken in any excavation, shaft, earthworks, underground works or tunnel —

- (a) by suitable shoring or otherwise to guard against danger to workers from a fall or dislodgement of earth, rock or other material;
- (b) to guard against dangers arising from the fall of persons, materials or objects or the inrush of water into the excavation, shaft, earthworks, underground works or tunnel;
- (c) to secure adequate ventilation at every workplace so as to maintain an atmosphere fit for respiration and to limit any fumes, gases, vapours, dust or other impurities to levels which are not dangerous or injurious to health and are within limits laid down by national laws or regulations;
- (d) to enable the workers to reach safety in the event of fire, or an inrush of water or material;
- (e) to avoid risk to workers arising from possible underground dangers such as the circulation of fluids or the presence of pockets of gas, by undertaking appropriate investigations to locate them.

Article 20

COFFERDAMS AND CAISONS

1. Every cofferdam and caisson shall be —
 - (a) of good construction and suitable and sound material and of adequate strength;
 - (b) provided with adequate means for workers to reach safety in the event of an inrush of water or material.
2. The construction, positioning, modification or dismantling of a cofferdam or caisson shall take place only under the immediate supervision of a competent person.
3. Every cofferdam and caisson shall be inspected by a competent person at prescribed intervals.

Please describe the provisions governing the supervision required in paragraph 2 and the inspection required in paragraph 3.

Article 21

WORK IN COMPRESSED AIR

1. Work in compressed air shall be carried out only in accordance with measures prescribed by national laws or regulations.
2. Work in compressed air shall be carried out only by workers whose physical aptitude for such work has been established by a medical examination and when a competent person is present to supervise the conduct of the operations.

Please indicate the nature of the medical examinations prescribed and the manner in which supervision is ensured.

Article 22

STRUCTURAL FRAMES AND FORMWORK

1. The erection of structural frames and components, formwork, falsework and shoring shall be carried out only under the supervision of a competent person.
2. Adequate precautions shall be taken to guard against danger to workers arising from any temporary state of weakness or instability of a structure.
3. Formwork, falsework and shoring shall be so designed, constructed and maintained that it will safely support all loads that may be imposed on it.

Article 23

WORK OVER WATER

1. Where work is done over or in close proximity to water there shall be adequate provision for —
 - (a) preventing workers from falling into the water;
 - (b) the rescue of any workers in danger of drowning;
 - (c) safe and sufficient transport.

Article 24

DEMOLITION

When the demolition of any building or structure might present danger to workers or to the public —

- (a) appropriate precautions, methods and procedures shall be adopted, including those for the disposal of waste or residues in accordance with national laws or regulations;
- (b) the work shall be planned and undertaken only under the supervision of a competent person.

Please describe the precautions, methods and procedures to be adopted and the manner of ensuring supervision.

Article 25

LIGHTING

Adequate and suitable lighting, including portable lighting where appropriate, shall be provided at every workplace and any other place on the construction site where a worker may have to pass.

Article 26

ELECTRICITY

1. All electrical equipment and installations shall be constructed, installed and maintained by a competent person, and so used as to guard against danger.

2. Before construction is commenced and during the progress thereof adequate steps shall be taken to ascertain the presence of and to guard against danger to workers from any live electrical cable or apparatus which is under, over or on the site.

3. The laying and maintenance of electrical cables and apparatus on construction sites shall be governed by the technical rules and standards applied at the national level.

Please describe the technical rules and standards applied at the national level.

Article 27

EXPLOSIVES

Explosives shall not be stored, transported, handled or used except —

- (a) under conditions prescribed by national laws or regulations; and
- (b) by a competent person, who shall take such steps as are necessary to ensure that workers and other persons are not exposed to risk of injury.

Article 28

HEALTH HAZARDS

1. Where a worker is liable to be exposed to any chemical, physical or biological hazard to such an extent as is liable to be dangerous to health, appropriate preventive measures shall be taken to prevent such exposure.

2. The preventive measures referred to in paragraph 1 above shall comprise —

- (a) the replacement of hazardous substances by harmless or less hazardous substances wherever possible; or
- (b) technical measures applied to the plant, machinery, equipment or process; or
- (c) where it is not possible to comply with subparagraphs (a) or (b) above, other effective measures, including the use of personal protective equipment and protective clothing.

3. Where workers are required to enter any area in which a toxic or harmful substance may be present, or in which there may be an oxygen deficiency, or a flammable atmosphere, adequate measures shall be taken to guard against danger.

4. Waste shall not be destroyed or otherwise disposed of on a construction site in a manner which is liable to be injurious to health.

Please describe the measures prescribed with a view to preventing exposure to health risks.

Article 29

FIRE PRECAUTIONS

1. The employer shall take all appropriate measures to —

- (a) avoid the risk of fire;
- (b) combat quickly and efficiently any outbreak of fire;
- (c) bring about a quick and safe evacuation of persons.

2. Sufficient and suitable storage shall be provided for flammable liquids, solids and gases.

Article 30

PERSONAL PROTECTIVE EQUIPMENT AND PROTECTIVE CLOTHING

1. Where adequate protection against risk of accident or injury to health including exposure to adverse conditions cannot be ensured by other means, suitable personal protective equipment and protective clothing, having regard to the type of work and risks, shall be provided and maintained by the employer, without cost to the workers, as may be prescribed by national laws or regulations.

2. The employer shall provide the workers with the appropriate means to enable them to use the individual protective equipment and shall ensure its proper use.

3. Protective equipment and protective clothing shall comply with standards set by the competent authority taking into account as far as possible ergonomic principles.

4. Workers shall be required to make proper use of and to take good care of the personal protective equipment and protective clothing provided for their use.

Article 31

FIRST AID

The employer shall be responsible for ensuring that first aid, including trained personnel, is available at all times. Arrangements shall be made for ensuring the removal for medical attention of workers who have suffered an accident or sudden illness.

Article 32

WELFARE

1. At or within reasonable access of every construction site an adequate supply of wholesome drinking water shall be provided.
2. At or within reasonable access of every construction site, the following facilities shall, depending on the number of workers and the duration of the work, be provided and maintained —
 - (a) sanitary and washing facilities;
 - (b) facilities for changing and for the storage and drying of clothing;
 - (c) accommodation for taking meals and for taking shelter during interruption of work due to adverse weather conditions.
3. Men and women workers should be provided with separate sanitary and washing facilities.

Article 33

INFORMATION AND TRAINING

Workers shall be adequately and suitably —

- (a) informed of potential safety and health hazards to which they may be exposed at their workplace;
- (b) instructed and trained in the measures available for the prevention and control of, and protection against, those hazards.

Article 34

REPORTING OF ACCIDENTS AND DISEASES

National laws or regulations shall provide for the reporting to the competent authority within a prescribed time of occupational accidents and diseases.

IV. IMPLEMENTATION

Article 35

Each Member shall —

- (a) take all necessary measures, including the provision of appropriate penalties and corrective measures, to ensure the effective enforcement of the provisions of the Convention;
- (b) provide appropriate inspection services to supervise the application of the measures to be taken in pursuance of the Convention and provide these services with the resources necessary for the accomplishment of their task, or satisfy itself that appropriate inspection is carried out.

Please give full details on:

- (a) *measures to ensure effective enforcement, including penalties and corrective measures; and*
- (b) *the organisation and functioning of the inspection service.*

III. In so far as such information has not been supplied under Article 35 of the Convention, please state to what authority or authorities the application of the above-mentioned legislation and administrative regulations, etc., is entrusted.

IV. Please state whether courts of law or other tribunals have given decisions involving questions of principle relating to the application of the Convention. If so, please supply the text of these decisions.

V. If your country has received assistance or advice within the context of a technical co-operation project being carried out by the ILO, please indicate what action was taken as a result. Please indicate also any factors which may have prevented or delayed such action.

VI. Please give a general appreciation of the manner in which the Convention is applied in your country, and attach extracts from the reports of the inspection services, information on the number of workers covered by the legislation, the number and nature of the contraventions reported and the resulting action taken, and the number of occupational accidents and diseases reported, in so far as this information has not already been supplied in connection with other questions in this form.

VII. Please indicate the representative organisations of employers and workers to which copies of the present report have been communicated in accordance with article 23, paragraph 2, of the Constitution of the International Labour Organisation.¹ If copies of the report have not been communicated to representative organisations of employers and/or workers, or if they have been communicated to bodies other than such organisations, please supply information on any particular circumstances existing in your country which explain the procedure followed.

Please indicate whether you have received from the organisations of employers or workers concerned any observations, either of a general kind or in connection with the present or the previous report, regarding the practical application of the provisions of the Convention or the application of the legislation or other measures implementing the Convention. If so, please communicate the observations received, together with any comment that you consider useful.

¹ Article 23, paragraph 2, of the Constitution reads as follows: "Each Member shall communicate to the representative organisations recognised for the purpose of article 3 copies of the information and reports communicated to the Director-General in pursuance of articles 19 and 22."

ANNEX

SAFETY AND HEALTH IN CONSTRUCTION RECOMMENDATION, 1988 (No. 175)

I. SCOPE AND DEFINITIONS

1. The provisions of the Safety and Health in Construction Convention, 1988 (hereinafter referred to as "the Convention"), and of this Recommendation should be applied in particular to:

- (a) building, civil engineering and the erection and dismantling of prefabricated buildings and structures, as defined in Article 2(a) of the Convention;
- (b) the fabrication and erection of oil rigs, and of offshore installations while under construction on shore.

2. For the purposes of this Recommendation—

- (a) the term "construction" covers:
- (i) building, including excavation and the construction, structural alteration, renovation, repair, maintenance (including cleaning and painting) and demolition of all types of buildings or structures;
- (ii) civil engineering, including excavation and the construction, structural alteration, repair, maintenance and demolition of, for example, airports, docks, harbours, inland waterways, dams, river and avalanche and sea defence works, roads and highways, railways, bridges, tunnels, viaducts and works related to the provision of services such as communications, drainage, sewerage, water and energy supplies;
- (iii) the erection and dismantling of prefabricated buildings and structures, as well as the manufacturing of prefabricated elements on the construction site;

(b) the term "construction site" means any site at which any of the processes or operations described in clause (a) above are carried on;

(c) the term "workplace" means all places where workers need to be or to go by reason of their work and which are under the control of an employer as defined in clause (f) below;

(d) the term "worker" means any person engaged in construction;

(e) the term "workers' representatives" means persons who are recognised as such under national law or practice;

(f) the term "employer" means:

- (i) any physical or legal person who employs one or more workers on a construction site; and
- (ii) as the context requires, the principal contractor, the contractor or the subcontractor;

(g) the term "competent person" means a person possessing adequate qualifications, such as suitable training and sufficient knowledge, experience and skill for the safe performance of the specific work. The competent authorities may define appropriate criteria for the designation of such persons and may determine the duties to be assigned to them;

(h) the term "scaffold" means any temporary structure, fixed, suspended or mobile, and its supporting components which is used for supporting workers and materials or to gain access to any such structure, and which is not a "lifting appliance" as defined in clause (i) below;

- (i) the term "lifting appliance" means any stationary or mobile appliance used for raising or lowering persons or loads;
- (j) the term "lifting gear" means any gear or tackle by means of which a load can be attached to a lifting appliance but which does not form an integral part of the appliance or load.

3. The provisions of this Recommendation should also apply to such self-employed persons as may be specified by national laws or regulations.

II. GENERAL PROVISIONS

4. National laws or regulations should require that employers and self-employed persons have a general duty to provide a safe and healthy workplace and to comply with the prescribed safety and health measures.

5. (1) Whenever two or more employers undertake activities at one construction site, they should have the duty to co-operate with one another as well as with any other persons participating in the construction work being undertaken, including the owner or his representative, in order to comply with the prescribed safety and health measures.

(2) Ultimate responsibility for the co-ordination of safety and health measures on the construction site should rest with the principal contractor or such other person as is primarily responsible for the execution of the work.

6. The measures to be taken to ensure that there is organised co-operation between employers and workers to promote safety and health at construction sites should be prescribed by national laws or regulations or by the competent authority. Such measures should include—

- (a) the establishment of safety and health committees representative of employers and workers with such powers and duties as may be prescribed;
- (b) the election or appointment of workers' safety delegates with such powers and duties as may be prescribed;
- (c) the appointment by the employer of suitably qualified and experienced persons to promote safety and health;
- (d) the training of safety delegates and safety committee members.

7. Those concerned with the design and planning of a construction project should take into account the safety and health of the construction workers in accordance with national laws, regulations and practice.

8. The design of construction equipment, tools, protective equipment and other similar equipment should take account of ergonomic principles.

III. PREVENTIVE AND PROTECTIVE MEASURES

9. Construction work should be planned, prepared and undertaken in such a way that—

- (a) risks liable to arise at the workplace are prevented as soon as possible;
- (b) excessively or unnecessarily strenuous work positions and movements are avoided;

- (c) organisation of work takes into account the safety and health of workers;
- (d) materials and products are used which are suitable from a safety and health point of view;
- (e) working methods are employed which protect workers against the harmful effects of chemical, physical and biological agents.

10. National laws or regulations should provide for the notification to the competent authority of construction sites of such size, duration or characteristics as may be prescribed.

11. Workers should have the right and the duty at any workplace to participate in ensuring safe working conditions to the extent of their control over the equipment and methods of work and to express views on the working procedures adopted as they may affect safety and health.

SAFETY OF WORKPLACES

12. Housekeeping programmes should be established and implemented on construction sites which should include provision for—

- (a) the proper storage of materials and equipment;
- (b) the removal of waste and debris at appropriate intervals.

13. Where workers cannot be protected against falls from heights by any other means—

- (a) adequate safety nets or safety sheets should be erected and maintained; or
- (b) adequate safety harnesses should be provided and used.

14. The employer should provide the workers with the appropriate means to enable them to use individual protective equipment and should ensure its proper use. Protective equipment and protective clothing should comply with standards set by the competent authority, taking into account as far as possible ergonomic principles.

15. (1) The safety of construction machinery and equipment should be examined and tested by type or individually, as appropriate, by a competent person.

(2) National laws and regulations should take into consideration the fact that occupational diseases may be caused by machinery, apparatus and systems which do not take account of ergonomic principles in their design.

SCAFFOLDS

16. Every scaffold and part thereof should be of suitable and sound material and of adequate size and strength for the purpose for which it is used and be maintained in a proper condition.

17. Every scaffold should be properly designed, erected and maintained so as to prevent collapse or accidental displacement when properly used.

18. The working platforms, gangways and stairways of scaffolds should be of such dimensions and so constructed and guarded as to protect persons against falling or being endangered by falling objects.

19. No scaffold should be overloaded or otherwise misused.

20. A scaffold should not be erected, substantially altered or dismantled except by or under the supervision of a competent person.

- 21. Scaffolds as prescribed by national laws or regulations should be inspected, and the results recorded, by a competent person—
 - (a) before being taken into use;
 - (b) at periodic intervals thereafter;
 - (c) after any alteration, interruption in use, exposure to weather or seismic conditions or any other occurrence likely to have affected their strength or stability.

LIFTING APPLIANCES AND LIFTING GEAR

22. National laws or regulations should prescribe the lifting appliances and items of lifting gear which should be examined and tested by a competent person—

- (a) before being taken into use for the first time;
- (b) after erection on a site;
- (c) subsequently at intervals prescribed by such national laws or regulations;
- (d) after any substantial alteration or repair.

23. The results of the examinations and tests of lifting appliances and items of lifting gear carried out in pursuance of Paragraph 22 above should be recorded and, as required, made available to the competent authority and to employers and workers or their representatives.

24. Every lifting appliance having a single safe working load and every item of lifting gear should be clearly marked with its maximum safe working load.

25. Every lifting appliance having a variable safe working load should be fitted with effective means to indicate clearly to the driver each maximum safe working load and the conditions under which it is applicable.

26. A lifting appliance or item of lifting gear should not be loaded beyond its safe working load or loads, except for testing purposes as specified by and under the direction of a competent person.

27. Every lifting appliance and every item of lifting gear should be properly installed so as, inter alia, to provide safe clearance between any moving part and fixed objects, and to ensure the stability of the appliance.

28. Where necessary to guard against danger, no lifting appliance should be used without the provision of suitable signalling arrangements or devices.

29. The drivers and operators of such lifting appliances as are prescribed by national laws or regulations should be—

- (a) of a prescribed minimum age;
- (b) properly trained and qualified.

TRANSPORT, EARTH-MOVING AND MATERIALS-HANDLING EQUIPMENT

30. The drivers and operators of vehicles and of earth-moving or materials-handling equipment should be persons trained and tested as required by national laws or regulations.

31. Adequate signalling or other control arrangements or devices should be provided to guard against danger from the movement of vehicles and earth-moving or materials-handling equipment. Special safety precautions should be taken for vehicles and equipment when manoeuvring backwards.

32. Preventive measures should be taken to avoid the fall of vehicles and earth-moving and materials-handling equipment into excavations or into water.

33. Where appropriate, earth-moving and materials-handling equipment should be fitted with structures designed to protect the operator from being crushed should the machine overturn, and from falling material.

EXCAVATIONS, SHAFTS, EARTHWORKS, UNDERGROUND WORKS AND TUNNELS

34. Shoring or other support for any part of an excavation, shaft, earthworks, underground works or tunnel should not be erected, altered or dismantled except under the supervision of a competent person.

35. (1) Every part of an excavation, shaft, earthworks, underground works and tunnel where persons are employed should be inspected by a competent person at the times and in the cases prescribed by national laws or regulations, and the results recorded.

(2) Work should not be commenced therein until after such an inspection.

WORK IN COMPRESSED AIR

36. The measures regarding work in compressed air prescribed pursuant to Article 21 of the Convention should include provisions regulating the conditions in which the work is to be carried out, the plant and equipment to be used, the medical supervision and control of workers and the duration of work in compressed air.

37. A person should only be allowed to work in a caisson if it has been inspected by a competent person within such preceding period as is prescribed by national laws or regulations; the results of the inspection should be recorded.

PILE DRIVING

38. All pile-driving equipment should be of good design and construction taking into account as far as possible ergonomic principles, and properly maintained.

39. Pile driving should be carried out only under the supervision of a competent person.

WORK OVER WATER

40. The provisions regarding work over water prescribed in pursuance of Article 23 of the Convention should include, where appropriate, the provision and use of suitable and adequate—

- (a) fencing, safety nets and safety harnesses;
- (b) life vests, life preservers, manned boats (motor driven if necessary) and lifebuoys;
- (c) protection against such hazards as reptiles and other animals.

HEALTH HAZARDS

41. (1) An information system should be set up by the competent authority, using the results of international scientific research, to provide information for architects, contractors, employers and workers' repre-

sentatives on the health risks associated with hazardous substances used in the construction industry.

(2) Manufacturers and dealers in products used in the construction industry should provide with the products information on any health risks associated with them and on the precautions to be taken.

(3) In the use of materials that contain hazardous substances and in the removal and disposal of waste, the health of workers and of the public and the preservation of the environment should be safeguarded as prescribed by national laws and regulations.

(4) Dangerous substances should be clearly marked and provided with a label giving their relevant characteristics and instructions on their use. They should be handled under conditions prescribed by national laws and regulations or by the competent authority.

(5) The competent authority should determine which hazardous substances should be prohibited from use in the construction industry.

42. The competent authority should keep records of monitoring of the working environment and assessment of workers' health for a period prescribed by national laws and regulations.

43. The manual lifting of excessive weights which presents a safety and health risk to workers should be avoided by reducing the weight, by the use of mechanical devices or by other means.

44. Whenever new products, equipment and working methods are introduced, special attention should be paid to informing and training workers with respect to their implications for safety and health.

DANGEROUS ATMOSPHERES

45. The measures regarding dangerous atmospheres prescribed pursuant to Article 28, paragraph 3, of the Convention should include prior written authority or permission from a competent person, or any other system by which entry into any area in which a dangerous atmosphere may be present can be effected only after completing specified procedures.

FIRE PRECAUTIONS

46. Where necessary to guard against danger, workers should be suitably trained in the action to be taken in the event of fire, including the use of means of escape.

47. Where appropriate suitable visual signs should be provided to indicate clearly the directions of escape in case of fire.

RADIATION HAZARDS

48. Stringent safety regulations should be drawn up and enforced by the competent authority with respect to construction workers engaged in the maintenance, renovation, demolition or dismantling of any buildings in which there is a risk of exposure to ionising radiations, in particular in the nuclear power industry.

FIRST AID

49. The manner in which first-aid facilities and personnel are to be provided in pursuance of Article 31 of the Convention should be prescribed by national

laws or regulations drawn up after consulting the competent health authority and the most representative organisations of employers and workers concerned.

50. Where the work involves risk of drowning, asphyxiation or electric shock, first-aid personnel should be proficient in the use of resuscitation and other life-saving techniques and in rescue procedures.

WELFARE

51. In appropriate cases, depending on the number of workers, the duration of the work and its location, adequate facilities for obtaining or preparing food and drink at or near a construction site should be provided, if they are not otherwise available.

52. Suitable living accommodation should be made available for the workers at construction sites which are remote from their homes, where adequate transportation between the site and their homes or other suitable living accommodation is not available. Men and women workers should be provided with separate sanitary, washing and sleeping facilities.

IV. EFFECT ON EARLIER RECOMMENDATIONS

53. This Recommendation supersedes the Safety Provisions (Building) Recommendation, 1937, and the Co-operation in Accident Prevention (Building) Recommendation, 1937.