

Proposal for a Council Directive concerning the minimum safety and health requirements for transport activities and workplaces on means of transport (Individual Directive within the meaning of Article 16) of Directive 89/391/EEC

(93/C 25/02)

COM(92) 234 final — SYN 420

(Submitted by the Commission on 17 November 1992)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118a thereof,

Having regard to the proposal from the Commission, submitted after consulting the Advisory Committee on Safety, Hygiene and Health Protection at Work,

In cooperation with the European Parliament,

Having regard to the opinion of the Economic and Social Committee,

Whereas Article 118a of the Treaty provides that the Council shall adopt, by means of directives, minimum requirements for encouraging improvements, especially in the working environment, to ensure a better level of protection of the safety and health of workers;

Whereas, under the terms of that Article, those directives are to avoid imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small and medium-sized undertakings;

Whereas the communication from the Commission on its programme concerning safety, hygiene and health at work ⁽¹⁾ provides for the adoption of a directive designed to guarantee the safety and health of workers at the workplace;

Whereas, in its resolution of 21 December 1987 on safety, hygiene and health at work ⁽²⁾, the Council took note of the Commission's intention of submitting to the Council minimum requirements concerning the arrangement of the place of work;

Whereas Council Directive 89/654/EEC of 20 November 1989 on the minimum safety and health requirements for the workplace ⁽³⁾ does not apply to means of transport used outside the undertaking and/or the establishment or workplaces inside means of transport and these should be dealt with specifically;

Whereas because transport activities often take place outside the permanent establishments of undertakings and

frequently require the presence of workers on board the means of transport for uninterrupted periods of time, specific organizational methods should be provided for;

Whereas compliance with the minimum requirements designed to guarantee a better standard of safety and health at workplaces on means of transport is essential to ensure the safety and health of workers;

Whereas the activities of self-employed workers not covered by the provisions of this Directive should be addressed by another directive dealing in general terms with the health and safety of self-employed workers in all sectors of activity;

Whereas this Directive is an individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC of 12 June 1989 on the implementation of measures to encourage improvements in the safety and health of workers at work ⁽⁴⁾; whereas the provisions of the latter are therefore fully applicable to the field of transport activities without prejudice to more stringent and/or specific provisions contained in this Directive;

Whereas means of transport which are special items of work equipment are covered by Council Directive 89/655/EEC of 30 November 1989 concerning the minimum safety and health requirements for the use of work equipment by workers at work (second individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC) ⁽⁵⁾;

Whereas because the conditions governing safety on board means of transport mainly depend on the faculties and the state of health of certain workers, and incapacitation, even for a short time, during the performance of certain tasks can directly jeopardize the safety of the means of transport and of the persons on board, preventive medical surveillance should therefore be provided for which would make it possible to identify at an early stage any deterioration in these workers' faculties;

Whereas it is important that no obstacle be placed in the way of the application of the other Community directives

⁽¹⁾ OJ No C 28, 3. 2. 1988, p. 3.

⁽²⁾ OJ No C 28, 3. 2. 1988, p. 1.

⁽³⁾ OJ No L 393, 30. 12. 1989, p. 1.

⁽⁴⁾ OJ No L 183, 29. 6. 1989, p. 1.

⁽⁵⁾ OJ No L 393, 30. 12. 1989, p. 13.

concerning the field of transport, always provided that such directives provide at least the level of protection laid down by this Directive;

Whereas this Directive is a practical contribution towards creating the social dimension of the internal market;

Whereas, pursuant to Decision 74/325/EEC ⁽¹⁾, as last amended by the 1985 Act of Accession, the Advisory Committee on Safety, Hygiene and Health Protection at Work is consulted by the Commission on the drafting of proposals in this field,

HAS ADOPTED THIS DIRECTIVE:

SECTION I

GENERAL PROVISIONS

Article 1

Subject

1. This Directive, which is the 12th individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC, lays down minimum requirements for safety and health at workplaces on board means of transport and transport activities, as defined in Article 2.

2. The provisions of Directive 89/391/EEC are fully applicable to the entire area referred to in paragraph 1, without prejudice to more restrictive and/or specific provisions contained in this Directive.

3. The provisions contained in this Directive are without prejudice to other specific Community provisions, including those on transport, provided these do not reduce the level of protection to workers laid down by this Directive.

Article 2

Definitions

For the purposes of this Directive,

1. 'transport activities' mean all the activities on board means of transport and those set out in Annex I;
2. 'means of transport' means work equipment intended for all types of transport in the air, on roads, on railways or on the water;
3. 'drivers' mean the workers actually operating the instruments controlling the movement of a means of transport.

SECTION II

EMPLOYERS' OBLIGATIONS

Article 3

Modifications to workplaces

1. Workplaces on board means of transport must comply with the minimum requirements for safety and health set out in Annex II, Part A.

2. Notwithstanding paragraph 1, workplaces on board means of transport already in service on the date specified in Article 13 (1) must, within three years of that date, comply with the minimum requirements set out in Annex II, Part A.

Article 4

Sanitary facilities, rest rooms and living areas

1. Depending on the length of the continuous periods of time during which workers are obliged to remain on board the means of transport and taking into account the nature of the activities involved, the employer must provide on the means of transport appropriate sanitary facilities, rest rooms and living quarters for such workers.

2. The sanitary facilities, rest rooms and living quarters referred to in paragraph 1 must comply with the minimum requirements for safety and health set out in Annex II, Part B.

3. Notwithstanding paragraph 2, sanitary facilities, rest rooms and living quarters on board means of transport already in service on the date specified in Article 13 (1) must, within three years of that date, comply with the minimum requirements for safety and health set out in Annex II, Part B.

4. If the length of time for which the workers must remain without interruption on board the means of transport does not necessitate application of paragraph 1, the employer must, if the nature of the journey and the activities so require, either make available to workers sanitary facilities, rest rooms and living quarters as defined in paragraph 1, or take adequate measures to ensure that workers may have the use of facilities of at least the same standard at suitable and easily accessible locations.

Article 5

General requirements

To safeguard the safety and health of workers the employer shall see to it that:

⁽¹⁾ OJ No L 185, 9. 7. 1974, p. 15.

- means of transport are kept in a satisfactory condition of safety,
- technical maintenance of workplaces on means of transport and of the equipment and devices, and in particular those referred to in Annexes II and III is carried out and any faults found which are liable to affect the safety and health of workers are rectified as quickly as possible,
- workplaces on means of transport and the equipment and devices, and in particular those referred to in Annex II, Part A, point 6, are regularly cleaned to an adequate level of hygiene,
- safety, emergency, control and signalling equipment and devices intended to prevent or eliminate hazards and, in particular, equipment referred to in Annexes II and III are regularly maintained and checked.

Article 6

Organizational measures

The employer shall take suitable organizational measures and shall provide workers with suitable equipment to safeguard the safety and health of workers during transport activities.

In devising the organizational measures and in selecting the equipment intended to safeguard the health and safety of workers during transport activities, the employer shall take into consideration the specific conditions and features of the work, route and infrastructure concerned and any risks to the safety and health of workers which might arise during transport activities.

The employer shall implement the minimum safety and health requirements set out in Annex III.

Article 7

Fitness of workers — Medical surveillance

For the purposes of Article 14 of Directive 89/391/EEC, the medical surveillance of workers engaged in transport activities involving hazards likely to jeopardize directly their own safety and that of the other workers on board the means of transport must take place:

- before the worker takes up the duties concerned,
- at regular intervals thereafter,

- whenever called for by circumstances or requested by the workers themselves.

Article 8

First aid, fire-fighting and evacuation of workers, serious and imminent danger

1. In implementing Article 8 of Directive 89/391/EEC in relation to transport activities, the employer must take into account the type and size of the means of transport and the characteristics of its load and of the route.
2. Paragraph 4 of the above Article shall not be applicable where the absence of a worker from his workstation would lead to an appreciable deterioration of the safety conditions of all those on board the means of transport.
3. The Member States may, in consultation with the two sides of industry, lay down detailed procedures for the implementation of paragraph 2 and the allocation of responsibilities arising therefrom.

Article 9

Information of workers

1. Without prejudice to Article 10 of Directive 89/391/EEC, the employer shall take the measures necessary to ensure that workers have at their disposal, where appropriate in written form, adequate information concerning safety and health during transport activities.
2. The information must contain at least adequate safety and health information concerning:
 - normal conditions under which the transport activities, including loading and unloading, are carried out,
 - foreseeable abnormal situations and the action to be taken in such circumstances,
 - the conclusions to be drawn from any experience gained during transport activities.

Article 10

Training of workers

Without prejudice to Article 12 of Directive 89/391/EEC, the employer shall take the necessary measures to ensure that workers engaged in transport activities receive suitable training, particularly on the risks which these activities involve and on the steps to be taken to reduce the likelihood and severity of accidents and to minimize their

effects. Worker training shall include emergency evacuation practise and rescue drills according to the type of transport and the working conditions.

Article 11

Consultation of workers and workers' participation

Consultation and participation of workers and/or their representatives shall take place in accordance with Article 11 of Directive 89/391/EEC on the matters covered by this Directive, including the Annexes thereto, particularly with a view to implementing Articles 4, 6 and 8.

SECTION III

MISCELLANEOUS PROVISIONS

Article 12

Amendments to the Annexes

Strictly technical amendments to the Annexes II and III as a result of:

- the adoption of directives on transport safety or technical harmonization and standardization of the design, manufacture or construction of means of transport and parts of workplaces, and/or
- technical progress, changes in international regulations or specifications and knowledge with regard to transport activities,
- shall be adopted in accordance with the procedure laid down in Article 17 of Directive 89/391/EEC.

Article 13

Final provisions

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 1994 at the latest. They shall forthwith inform the Commission thereof.

The provisions adopted pursuant to this paragraph shall contain a reference to this Directive or shall be accompanied by such reference at the time of their official publication. The procedure for such reference shall be adopted by the Member States.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they have already adopted or adopt in the field governed by this Directive.

3. Member States shall report to the Commission every five years on the practical implementation of the provisions of this Directive, indicating the points of view of employers and workers. The Commission shall inform the European Parliament, the Council, the Economic and Social Committee and the Advisory Council on Safety, Hygiene and Health Protection at Work.

Article 14

This Directive is addressed to the Member States.

*ANNEX I***LIST OF ACTIVITIES REFERRED TO IN ARTICLE 2**

1. Activities directly related to a means of transport which are performed outside the latter by workers whose normal workstation is on board.
 2. Activities of workers on the infrastructure of an operational railway network if the workers are authorized to enter the security zone of the network.
 3. Activities of workers on the external parts of aircraft in traffic areas of airports if they are directly related to a means of transport.
 4. Activities of workers during distribution and collection work on public highways involving frequent stops.
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ANNEX II

PART A

MINIMUM SAFETY AND HEALTH REQUIREMENTS FOR WORKPLACES ABOARD MEANS OF TRANSPORT REFERRED TO IN ARTICLE 3 OF THE DIRECTIVE

1. PRELIMINARY NOTE

The obligations laid down in this Annex apply whenever required by the features of the means of transport, the workplace, the activity, the circumstances or a hazard.

2. STABILITY, SOLIDITY

Workplaces on board means of transport must have a structure and solidity appropriate to the nature of their use.

3. ELECTRICAL INSTALLATIONS AND ENERGY SOURCES

The electrical installations must not present a fire or explosion hazard; persons must be adequately protected against the risk of accidents caused by direct or indirect contact.

The electrical installations and the protective devices must be appropriate to the voltage, external conditions and the competence of persons with access to parts of the installations.

It must be possible for emergency, safety, control and signalling equipment to continue functioning in the event of failure, fire or immersion of their main power supply.

4. EMERGENCY ROUTES AND EXITS

4.1. **Workplaces which may be occupied whilst the means of transport is in motion**4.1.1. *Emergency routes and exits to a safe area on board the means of transport*

Workplaces which may be occupied whilst the means of transport is in motion and at rest must provide access to a safe area on board. There must be a sufficient number of emergency routes and exits.

The emergency routes and exits and the traffic routes and doors giving access to them must be free from obstruction so that they can be used at any time without hindrance.

It must be possible for closed emergency doors to be opened easily and immediately by any person in an emergency.

Emergency routes and exits requiring illumination must be provided with emergency lighting of adequate intensity in case the lighting fails. Emergency routes and exits must be marked according to the type and complexity of the means of transport, in accordance with national regulations transposing Directive 77/576/EEC into law.

Depending on the means of transport drivers' cabs may be exempted from the provisions of this paragraph.

4.1.2. *Emergency doors of and exits from the means of transport*

Means of transport must be able to be evacuated under conditions of maximum safety. If the normal access facilities do not allow sufficiently rapid evacuation, there must be a sufficient number of emergency exits for the number of workers and other persons on board.

The emergency doors and exits from the means of transport must remain closed and, if necessary, bolted for as long as the safety of the means of transport and the user himself so requires.

Depending on the type and size of the means of transport and the number of people it can take on board, adequate rescue and survival equipment must be available to ensure that:

- the emergency exits can be opened,
- the means of transport can be evacuated safely and in good time,
- that safety is maintained after evacuation.

Specific emergency routes and exits must be indicated by signs in accordance with the national regulations transposing Directive 77/576/EEC into law.

4.2. Workplaces which are only occupied when the means of transport is at rest

Workplaces which are occupied only when the means of transport is at rest must, in the event of danger, be able to be evacuated rapidly and in conditions of maximum safety for workers.

Doors should not be so locked or fastened that they cannot be easily and immediately opened by any person who may require to use them in an emergency.

Emergency routes and exits requiring illumination must be provided with emergency lighting of adequate intensity in case the lighting fails.

5. FIRE DETECTION AND FIRE FIGHTING

- 5.1. Depending on the dimensions and use of the means of transport, the equipment contained therein, the physical and chemical characteristics of the substances present and the maximum potential number of people present, workplaces must be equipped with appropriate fire-fighting equipment and as necessary, with fire detectors, monitoring equipment and alarm systems.

- 5.2. Non-automatic fire-fighting equipment must be easily accessible and simple to use.

The equipment must be indicated by signs in accordance with the national regulations transposing Directive 77/576/EEC into law.

Such signs must be placed at appropriate points and be made to last.

6. VENTILATION OF ENCLOSED WORKPLACES

Steps shall be taken to ensure that there is sufficient fresh air in enclosed workplaces having regard to the working methods used and the physical demands placed on the workers.

If there is a ventilation system it shall be maintained in working order.

Where ventilation is necessary to protect workers' health, breakdowns in the ventilation system must be indicated by a control system.

7. ROOM TEMPERATURE

- 7.1. During working hours the temperature in rooms containing workplaces must be adequate for human beings, having regard to the working methods used and the physical demands placed on the workers.

- 7.2. Those parts of a means of transport liable to cause burns to workers or to cause release of excessive heat must be insulated and/or protected by adequate means.

8. NATURAL AND ARTIFICIAL LIGHTING

- 8.1. Workplaces and traffic routes on board means of transport must as far as possible receive sufficient natural light and be equipped with artificial lighting adequate for the protection of workers' safety and health.
- 8.2. Workplaces in which workers are especially exposed to risks in the event of the failure of artificial lighting must be provided with emergency lighting of adequate intensity.
- 8.3. The artificial lighting used and the dashboard lighting may not dazzle drivers or cause confusion as to the signals.

9. FLOORS, WALLS, CEILINGS

- 9.1. The floors of workplaces must be of non-slip material unless this is incompatible with the specific purpose of the floor in question. There must be no obstacles on the floor other than those which are essential to the proper functioning of the means of transport, and these must be made conspicuous through such means as use of contrasting colour or appropriate marking.

If a means of transport is equipped with ball mats where the workers must have access for loading, unloading and storage, non-slip areas must be provided to allow workers to move around.

- 9.2. Transparent or translucent walls, in particular all-glass partitions, in rooms or in the vicinity of workplaces and traffic routes must be clearly indicated and made of safety material or be shielded from such places or traffic routes to prevent workers from coming into contact with walls or being injured should the walls shatter.
- 9.3. External parts of means of transport which do not offer sufficient resistance to the weight of workers and their equipment must be clearly marked.

10. DOORS

- 10.1. Transparent doors must be appropriately marked at a conspicuous level. This does not apply if such a sign would restrict the driver's field of vision.
- 10.2. Swing doors and gates must be transparent or have see-through panels.
- 10.3. If the doors are located at a different height from the access level, handles or other suitable devices must be fitted to facilitate getting in and out.
- 10.4. If transparent or translucent surfaces in doors and gates are not made of safety material and if there is a danger that workers may be injured if a door or gate should shatter, the surfaces must be protected against breakage.
- 10.5. Sliding doors must be fitted with a safety device to prevent them from being derailed and falling over.
- 10.6. Doors and gates opening upwards must be fitted with a mechanism to secure them against falling back.
- 10.7. Mechanical doors and gates must function in such a way that there is no risk of accident to workers and people being transported.

They must be fitted with easily identifiable and accessible emergency shut-down devices and, unless they open automatically in the event of a power failure, it must also be possible to open them manually.

11. TRAFFIC ROUTES — DANGER AREAS

- 11.1. Traffic routes on board means of transport including stairs, fixed ladders and loading bays and ramps, must be designed to ensure easy, safe and appropriate access for pedestrians or vehicles in such a way so as not to endanger workers employed in the vicinity of these traffic routes.

Ladders and removable staircases must be fixed securely and if necessary they must be fitted with guardrails and handrails.

- 11.2. The dimensions of the traffic routes for persons and/or goods must be dependent on the potential number of users and the type of the means of transport.

Whilst work equipment is being moved along traffic routes an adequate safety distance shall be provided for pedestrians.

When vehicles are being moved by transshipping devices the latter must be placed so as to allow workers to move around and to carry out their tasks in safety.

- 11.3. Sufficient clearance must be allowed between vehicle traffic routes and doors, passages for pedestrians, corridors and staircases.

- 11.4. Where the use and equipment of rooms so requires for the protection of workers, traffic routes must be clearly identified.

- 11.5. If the workplaces contain danger areas in which, owing to the nature of the work, there is a risk of the worker or objects falling, the places must be equipped, as far as possible, with devices preventing unauthorized workers from entering these areas.

Appropriate measures must be taken to protect workers authorized to enter danger areas.

Danger areas must be clearly indicated.

12. ACCESS TO MEANS OF TRANSPORT

- 12.1. Access to means of transport must be appropriate in respect of height differences, the number of persons and the type of loads transported.

- 12.2. Access to means of transport must be appropriate to the type of means of transport, must be either securely attached or joined so as to prevent any inadvertent movement during access, and must be equipped with sufficient protection to prevent workers from falling.

13. WORKSTATIONS

Workstations on board means of transport must be ergonomically designed and must have sufficient space to ensure freedom of movement for the workers, particularly when carrying out their duties. With regard to driver's cabins the second of the two provisions in this paragraph shall apply only as far as practicable and shall depend on the type of means of transport.

14. FIRST AID AND RESCUE EQUIPMENT

Workplaces must be fitted with first aid and rescue equipment of a capacity commensurate with the maximum number of persons likely to be on board, raised by a safety factor.

The equipment must be suitably marked and easily accessible.

15. HANDICAPPED WORKERS

Workplaces must be organized to take account, if necessary, of handicapped workers carrying out duties there.

16. OUTDOOR WORKPLACES (SPECIAL PROVISIONS)

When workers are employed at workstations outdoors, such workstations must as far as possible be organized so that workers:

- (a) are protected against inclement weather conditions and, if necessary, against falling objects;

- (b) are not exposed to harmful noise levels nor to harmful external influences such as gases, vapours or dust;
- (c) are able to leave their workstations swiftly in the event of danger or are able to be rapidly assisted;
- (d) cannot slip or fall;
- (e) are not directly endangered by traffic.

PART B

MINIMUM SAFETY AND HEALTH REQUIREMENTS CONCERNING SANITARY FACILITIES REST ROOMS AND LIVING AREAS TO BE IMPLEMENTED IN ACCORDANCE WITH THE PROCEDURES PROVIDED FOR IN ARTICLE 4(1) OF THE DIRECTIVE

1. GENERAL

Points 2, 3, 4, 5, 6, 7.2, 8, 9, 10, 14 and 15 of Part A of this Annex apply *mutatis mutandis* to the sanitary facilities, rest rooms and living quarters to the extent dictated by the circumstances or the risk.

2. REST ROOMS AND REST AREAS

- 2.1. Where the safety and health of workers, in particular because of the type of activity carried out or the presence of more than a certain number of employees, so require, workers must be provided with an easily accessible rest room or appropriate rest area.
- 2.2. Rest rooms and rest areas must be equipped with tables and seats with backs.
- 2.3. In rest rooms and rest areas appropriate measures must be introduced for the protection of non-smokers against discomfort caused by tobacco smoke.

3. PREGNANT WOMEN

Pregnant women must be able to lie down to rest in appropriate conditions.

4. SANITARY EQUIPMENT

4.1. Changing rooms and lockers

- 4.1.1. Appropriate changing rooms must be provided for workers if they have to wear special work clothes and where, for reasons of health or propriety, they cannot be expected to change in another place.

Changing rooms must be easily accessible and of sufficient capacity.

- 4.1.2. Changing rooms must have facilities to enable each worker to lock away this clothes during working hours.

If circumstances so require (e.g. dangerous substances, humidity, dirt) lockers for work clothes must be separate from those for ordinary clothes.

- 4.1.3. Provision must be made for separate changing rooms or separate use of changing rooms for men and women.

4.2. Showers, lavatories and washbasins

- 4.2.1. Workplaces must be fitted out in such a way that workers have near at hand:

— showers, if required by the nature of their work,

- special facilities equipped with an adequate number of lavatories and washbasins.
- 4.2.2. The showers and washbasins must be equipped with running water (hot water if necessary).
- 4.2.3. Provision must be made for separate showers or separate use of showers for men and women.

Provision must be made for separate lavatories or separate use of lavatories for men and women.

5. LIVING QUARTERS

- 5.1. The location, structure, fittings and equipment of living quarters for crews and service areas and means of access to them must be such that they ensure adequate protection against the danger of traffic, inclement weather, nuisances due to noise and vibration and gases and fumes emitted in other parts of the means of transport and likely to disturb the workers' rest outside working hours.

Appropriate measures must be taken for the protection of non-smokers against discomfort caused by tobacco smoke.

- 5.2. The kitchen and/or cooking recesses must be easy to keep clean. If required there must be sufficient food storage and refrigeration facilities.

6. ROOM TEMPERATURE

The temperature in rest areas and rooms, living quarters, rooms for duty staff, sanitary facilities and canteens must be appropriate to the particular purpose of such areas and rooms.

*ANNEX III***MINIMUM SAFETY AND HEALTH REQUIREMENTS FOR TRANSPORT ACTIVITIES
REFERRED TO IN ARTICLE 6****1. PRELIMINARY NOTE**

The provisions of this Annex apply whenever the characteristics of the means of transport, the activities or the circumstances or a hazard so require.

2. GENERAL ORGANIZATIONAL MEASURES AND METHODS APPLICABLE TO TRANSPORT ACTIVITIES

- 2.1. The employer must arrange for the planning of the route to be taken and its timing, taking account of the load and the weather conditions and evaluating the traffic conditions and the risks inherent in various possible routes. If necessary, one or more alternative routes must be suggested to the driver. The employer shall take adequate steps to ensure that the driver is able to take account of any changes in the basic conditions during the journey.
- 2.2. The employer shall ensure that the workers' daily working hours are interrupted by a sufficient number of breaks of sufficient length to safeguard the health of the workers and to take account of their sanitary needs.
- 2.3. In the case of combined transportation, the employer shall, if necessary in cooperation with the other employer, ensure that workers accompanying means of transport on board another means of transport also benefit from the provisions of paragraphs 1 or 2 of Article 4 of the present Directive.
- 2.4. The employer shall take steps to ensure that workers handing over to those relieving them at a workstation located on board a means of transport can, when handing over, provide any necessary information on faults they have observed.
- 2.5. The measures to be taken and the methods to be deployed to deal with serious situations which can arise during transport activities must be determined in the light of the means of evacuation and the protection and rescue equipment required and the number of workers and other persons involved.
- 2.6. The employer shall ensure that a competent person who is familiar with the factors determining the stability of the means of transport under all loading, unloading and transport conditions supervises loading and unloading operations. This person may take an active part in such operations.
- 2.7. The condition of the load and of the means of transport must be monitored during the journey depending on the means of transport involved, the route, the features of the load and the weather conditions. If it is not possible to guarantee an adequate level of safety, the transport activity must be adapted to suit the changed circumstances, interrupted or suspended as necessary.
- 2.8. Devices must be provided to prevent untimely shifting of accessories and equipment used during transport in order to ensure that they do not constitute a danger for the workers.
- 2.9. Any potential source of ignition must be kept away from areas where there is a fire or explosion hazard. These areas must be marked clearly and permanently and smoking there must be prohibited.
- 2.10. Measurement and/or warning devices must be available in as far as the safety of workers or other persons require it.
- 2.11. Whilst a means of transport is being repaired, suitable steps to protect workers should be taken, and should include an adequate display of warning signs.

3. SPECIFIC ORGANIZATIONAL MEASURES FOR VARIOUS TYPES OF TRANSPORT

3.1. **Transport on water**

- 3.1.1. The employer shall ensure that vessels are properly crewed, taking into account the type, the cargo and the navigational zone and length of voyage. The crew must be able to use the rescue and evacuation equipment correctly.
- 3.1.2. Before departure, arrangements must be made to ensure that the vessel is seaworthy, that it is fitted out and equipped properly and that there are sufficient provisions, fuel and spare parts. Emergency, safety, control and signalling equipment must be provided and kept in fully operational condition. Ocean-going vessels must have sufficient quantities of drinking water on board or an installation for producing sufficient drinking water. Liquefied gas tanks on vehicles on board the vessel must be locked.
- 3.1.3. Docking, towing and anchoring manoeuvres must be executed so as not to endanger workers' safety. There must be a reliable system for the transmission of the corresponding orders to the stations involved in the manoeuvre.
- 3.1.4. When formation of ice on vessels is liable to compromise their stability, suitable measures must be taken so that the workers can de-ice in safety.
- 3.1.5. Tugs must be equipped with a towing hook which can be disengaged without danger from the control room.
- 3.1.6. Pusher platforms must be so designed that workers can pass from one boat to another easily and in safety, particularly at the start of tying-up alongside.

3.2. **Air transport**

- 3.2.1. If the paths of means of transport moving around the apron cross at the same level, traffic must be planned depending on the type of the means of transport and traffic rules must be laid down.
- 3.2.2. During towing manoeuvres a reliable means of communication must be used between the person in charge of operations and the towing dolly with, if necessary, recourse to an intermediary to ensure safety. In this case, the system of communication must be such that the intermediary is protected from the risks associated with the manoeuvres. The responsibilities of all persons involved must be clearly determined in advance.
- 3.2.3. If journeys include rapid changes of time zone which have an appreciable effect on the circadian rhythm, the employer must give the workers periods of rest to make up for this.

3.3. **Rail transport**

- 3.3.1. The employer shall ensure that workers on the permanent way are protected against the dangers from rail vehicles and live conductors, where necessary by temporary shutdown of the network sections concerned.
- 3.3.2. The employer responsible for the permanent way must ensure that this is maintained in good operating condition, particularly in respect of the safety of workers. He must ensure that an adequate means of signalling is provided and kept in good operating condition through regular maintenance.
- 3.3.3. The employer shall take adequate steps to ensure that workers working on the network are warned of the approach of rail vehicles.

Workers shall not enter tunnels or other places of restricted dimensions outside the safety zone while these sections of the rail network are in use, unless such areas have safety zones within easy reach.

- 3.3.4. Drivers of means of transport on railway networks must have a reliable means of communication with their director of operations. If the driver is alone on the means of transport he must be able to communicate verbally with the passengers.

3.4. **Road transport**

- 3.4.1. The employer must ensure that road vehicles transporting travellers or goods have sufficient crew taking into account the type of the means of transport, the load, the manner of loading and the duration of the stages and the total journey to be completed.
- 3.4.2. The employer may only allow workers to lie down or sleep on board vehicles in motion if they are equipped with couchettes of sufficient size, accessible from the driver's cabin and equipped to ensure passive protection in the event of an accident.
- 3.4.3. Spare wheels must be attached securely to vehicles. If necessary a device must be provided to allow them to be fitted and detached easily.
- 3.4.4. During distribution and collection operations involving frequent stops, the employer must, as far as possible, ensure that the tour is so organized that workers do not have to cross road traffic. When workers are standing on running boards or foot rests on the outside of the vehicle the vehicle speed shall be limited to walking speed. This may only be exceeded if the workers sit down on suitable seats.
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