

Legal gaps relating to labour safety and health in the maritime transport sector in Spain

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ABSTRACT

Nowadays the labour sector is experiencing an important increase in the application of risk prevention policies. Although these policies are very significant due to their repercussions in the health of workers, we noticed important legal gaps in maritime sector regulations. Frequently sea workers are legally abandoned, by exclusion or omission, at the moment of claiming for the improvement of their working environment and the reduction of the negative consequences derived from this negligence over their safety and health.

In the present paper we try to shed some light on this topic by analysing and examining minutely the Spanish applicable risk prevention legislation for this sector. Moreover, the recommendations of the International Maritime Organization are compared with the current application of the law. At the same time, we present some possible solutions to such problems from an objective point of view.

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Key words: maritime transport, ships, labour safety and health

INTRODUCTION

On 10 October 2006 the European Commission agreed a Communication to the European Parliament, to the Council, to the European Economic and Social Committee, and to the Committee of the Regions, on the member states' harmonization of a common policy with regard to work at sea, which emphasises the reference to legislation in the safety and health of seafarers [1].

The Commission admits that the community legislation with regard to labour health and safety is of application to all the sectors of the economic, public, and private activity. Likewise, it recognizes the right of maritime sector workers to have the same levels of protection that workers of other sectors have.

At the same time, the Commission establishes that only two of twenty-eight existing directives in this

matter are not applicable to the maritime transport sector:

- Directive 89/654/EC concerning the minimum safety and health requirements for the workplace, and
- Directive 90/270/EC on the minimum safety and health requirements for working with display screen equipment.

Subsequently, several aspects relating to on board safety and health that are not regulated or that are inadequately regulated are commented upon. At the same time, the Spanish applicable risk prevention legislation is analysed. In addition, the International Maritime Organization recommendations, the European Community legislation in this matter, and Spanish law are compared.

Finally, statistical data on sector dangerousness is presented and analysed.

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SAFETY ON BOARD

WORKPLACE

Merchant ships are very particular workplaces, and they should be subjected to specific regulations. Fishing vessels are also very specific workplaces; so in 1993 Directive 93/103/EC concerning the minimum safety and health requirements for working on board fishing vessels was approved. On the other hand, and while a specific regulation is not established, shipbuilding is unreferenced.

This gap in regulation seems worrying especially in countries such as Spain, where there has been no previous regulation in the matter. In addition, the United Nations Convention with regard to the Law of the Seas establishes that “every state shall effectively exercise its jurisdiction and control in administrative, technical, and social matters over ships flying its flag” [2].

In this Convention it is said that any state will take, in relation to ships flying its flag, the necessary measures to ensure safety at sea concerning, amongst other things, “the manning of ships, labour conditions, and the training of crews, taking into account the applicable international instruments” [2]. The term “labour conditions” generally refers to, amongst others, the general characteristics of the places, facilities, equipment, products, and any other existing tools in the working centre, which is to say the workplace – the ship in our case. It seems to be obvious that member states of the United Nations Organisation (UNO) are responsible for these duties as flag states.

Once regulation of the workplaces is approved, both shipbuilding and the import of new and already existing ships will have a legal reference.

MACHINERY

The following are considered machinery on board a ship: the main engine, auxiliary engines, windlass, pumps, cranes, derricks, lathes, emeries, etc. powered by steam, hydraulics, pneumatics, etc.

Council Directive 89/392/EC on machinery does not refer to ship engines or engines embarked on them. In addition, its transposition to Spanish law states that ships and offshore mobile units remain excluded from the area of application of this Royal Decree (RD), as well as the equipment installed on board such ships and units.

Based on these aforementioned facts, it could be said that safety related to machinery on board merchant ships, both their intrinsic safety and that derived from their use, is not regulated in Spain. Nevertheless, it is necessary to study the regulation that

came from the entry into force of the Labour Risks Prevention Law (1995), which is the transposition, amongst others, of Draft Directive 89/391/EC.

The Royal Decree 1215/1997, which is the transposition to Spanish law of Directive 89/655/EC (new Directive 2009/104/EC has not been transposed to Spanish law yet), establishes the minimal dispositions of safety and health for the use of working equipment by workers and does not exclude merchant ships in its scope of application. This RD defines working equipment as any machine, apparatus, tool, or installation used in the workplace. Marine equipment for embarkation on ships, which is included in the application area of the Royal Decree 809/99 (mainly equipment for safety and navigation devices, Directive 96/98/EC, modified by Directive 98/85/EC), must be excluded in this definition.

Therefore, in this case we could state that the safety “of” and “in” the ship’s machinery is under normative protection, but its inspection is not. In Spain, labour safety and health regulations inspection falls on the Working Inspectorate, an official body that depends on the Employment Department. Nevertheless, navigation safety inspections are the responsibility of the Maritime Safety Inspectorate, an official body that is part of the Public Works Department. The inspectors of the Working Inspectorate, who are specially trained for this assignment, do not inspect ships, and the inspectors from the Public Works Department, who actually inspect the ships, are not specially trained for this assignment. On the other hand, Classification Societies declare that neither the inspection of working safety of ships’ machinery, nor the inspection of safety in its operation on the part of the workers, are their assignment.

WORKING DAY

Working day regulation in Maritime Transport differs a lot among Spanish neighbouring countries. The working day is directly related with fatigue, and fatigue is one of the main accident risk factors in the workplace. Additionally, fatigue is the main accident risk factor in the transport sector. On the other hand, in the maritime sector, besides fatigue, the excessively long working days are accompanied with multifunctionality, which is another important accident risk factor. In fact, the arrangement of working time at sea determines the crew’s composition: as longest working day allowed, as major crew reduction applied and, therefore, major multifunctionality of seafarers.

The departing point of fatigue regulation is International Labour Organisation (ILO) Convention 180

on working hours and minimum manning on board ships, with a clear philosophy for regulating the working day on board ships to avoid fatigue and to provide ships with the adequate number of crew members.

Bearing the ILO Convention 180 in mind, Directive 1999/63/EC, concerning the agreement on the organisation of working time of seafarers, came into force in the European Union. This directive mainly gathers the spirit of ILO Convention 180, with the exception of Point 6 of Clause 5. Clause 5 allows exemptions to maximum working periods stated in 14 daily hours and 72 weekly hours, providing that general principles related to protection of workers health and safety are observed. In such a case the administration could bear in mind more frequent leave periods or longer ones in short-sea shipping.

However, this Clause does not clarify which are the general principles related to health and safety protection that allow working days longer than 14 daily hours and/or 72 weekly hours. It must not be forgotten that fatigue does not know about bilateral, contractual, or collective agreements. Fatigue is a form of physical and mental damage that cannot be postponed to longer leave periods. In any case, and from a preventive point of view, the step of more frequent leave periods would be acceptable only with reservations.

In addition, the area of application of this directive leaves flag of convenience fleets of a large number of European Union countries without legal protection.

The working day at sea is regulated in Spain by Royal Decree 285/2002 on special working days related to work at sea, which was developed taking into account ILO Convention 180 and Directive 1999/63/EC. The aim of this RD is to improve the safety and health of sea workers. However, it actually differs from the European Directive and has clear contradictions to ILO Convention 180, for example:

- the captain is excluded from the application area;
- it allows exceptions for working day duration due to the ship's commercial operability;
- it makes exceptions to coastal navigation;
- it allows compulsory exercises out of the working day;
- it overlaps Working Department Inspectorate and Public Works Department Inspectorate.

Moreover, the incompatibility between the Spanish Royal Decree and the ILO Convention 180 philosophy is focused on the interpretation of articles 4 and 5 of such a convention. Whereas the ILO regulation is centred around article 4 (working day of eight hours with one day off every week, and days of

rest corresponding to the official holidays), the Spanish Royal Decree 285/2002 is centred around article 5 (the maximum number of working hours will not exceed 14 hours per day or 72 hours per week).

The interpretation of point 11.2 of ILO Convention 180 differs depending on whether we base it on article 4 or 5 of such a convention: "when determining, approving, or revising manning levels, the competent authority shall take into account the need to avoid or minimize, as far as practicable, excessive hours of work, to ensure sufficient rest and to limit fatigue".

We understand that to determine, to approve, or to revise manning levels, the competent authority will take into account the excess of working hours in conformity with article 4, which establishes eight daily hours, instead of in conformity with article 5, which establishes a maximum of 14 hours in one day. Unfortunately, the latter is common practice nowadays: the competent authority checks that seafarers work neither more than 14 hours a day nor more than 72 hours a week. In such a case the competent authority shall investigate why workers are working for more than 8 hours a day and settle if, with the aim of ensuring sufficient rest and limiting fatigue, every particular ship must have one more crew member.

Nowadays, ILO Convention 180 is also ratified by Spanish law, adding more confusion to work on board regulations.

On the other hand, Council Directive 2009/13/EC of the Maritime Labour Convention, 2006, amending Directive 1999/63/EC, has not meant change as for the discussed in this point.

PRESSURE AND OTHER EQUIPMENT

Ships, rockets, aircraft, and coastal mobile units, as well as devices for installation on board them or to propel them, are excluded from the area of application of both Directive 97/23/EC on the approximation of the laws of the member states concerning pressure equipment, and its transposition to Spanish law, Royal Decree 769/1999.

Therefore, boilers and their pipelines, bottles and large bottles of compressed air, devices for warming or accumulating warm water, and even devices for the preparation of express coffee, remain excluded.

We find similar exclusions in other regulations related to Labour Safety on board ships, such as Royal Decree 842/2002 on Electrotechnical Regulation for Low Tension and Royal Decree 3099/1977 on Refrigerating Plants and Facilities Safety Regulation.

HEALTH ON BOARD

NOISE

Directive 2003/10/EC on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise) partly reduces the distressing panorama presented by RD 1316/1989, which excluded from its area of application ships and aircraft crews.

This European Community Directive recognizes the special noise problems on board ships allowing member states to have a transitory period for ships' staff, and it recommends the guidelines given by the International Maritime Organization (IMO) in its "Code on Noise Levels on Board Ships".

This directive was transposed to Spanish law by means of RD 286/2006, regarding workers health and safety protection against risks related to noise exposure. The aforementioned transitory period is observed in this RD, and it is established that Article 8, Limits of Exposure, has been applicable to merchant ship staff since 15 February 2011. The Directive 2003/10/EC recommendation about the use of the IMO Code on Noise Level on Board Ships is not mentioned in the Spanish transposition.

Nowadays, noise, besides being a problem of health (both during the working day and during rest period), is a problem of safety, concerning both seafarers and ships. The IMO recognizes [3] that noise impedes concentration and communication, can cancel other noises related to safety, such as alarms, and prevents suitable rest, thus favouring the appearance of fatigue.

Likewise, the harmful effect of noise is strengthened when it appears associated with other common elements in the maritime workplace, such as high humidity and vibrations.

On the other hand, rest periods on board are not long enough to make ear recovery capacity easier because seafarers do not leave the work place once their working day is finished.

In an international basis, noise is regulated by ILO Convention 148 on the working environment (air pollution, noise, and vibrations), ILO Convention 155 concerning occupational safety and health and the working environment, and IMO Resolution A. 468, Code on noise levels on board ships. This IMO code was developed to be used as a guide to the administrations in relation to the principles for noise reduction on board ships.

Among other interesting points, "suggested methods to reduce noise exposure" contributes ideas

and suggests the convenience of designing a plan for the conservation of seafarer's auditory faculty.

Summarizing, and taking into account the Commission's aim to improve working conditions to make work at sea more attractive, we can see that the problem of noise on board is still unresolved. Moreover, if specific measures are not taken, it will continue to be a problem in the short and medium term.

VIBRATIONS

Technical and scientific problems prevent the correct regulation of vibrations on board merchant ships, but its legal treatment is different from that of noise.

Directive 2002/44/EC on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration) considers the possibility of granting exceptions for maritime and air navigation sectors given the current condition of technology. In fact, RD 1311/2005 establishes the exception of Maximum Values in maritime navigation: if observing the limit exposure value is not possible in spite of putting into practice technical and/or organization measures on the part of the company.

Unfortunately, unexceptional values taken on board, ranging from 3.8 m/s² to 7.6 m/s², are reported. These values are very far away from the 1.15 m/s² 8-hour limit value [4].

In addition, to put into practice the aforementioned exception, the company has to reason it out, consult with workers about it, certify it in the evaluation, and communicate it to the labour authority. That is to say, the responsibility of the lack of technological advance is put on the company, whereas this issue remains unregulated during ship building. Furthermore, foot-leg vibration due to trepidation is not recognized.

DISPLAY SCREEN EQUIPMENT

Both Directive 90/270/EC on the minimum safety and health requirements for work with display screen equipment and its transposition to Spanish law, RD 488/97, exclude from its area of application the computer systems embarked in any means of transport. Twenty years after the approval of this Directive at least six watchkeeping officers in every ship spend most of their working day in front of display screen equipment.

OCCUPATIONAL DISEASES

RD 1299/2006 Table of Occupational Diseases recognizes deafness as an occupational disease if it

is contracted by crew members who are employed in the engine room.

However, the ILO List of Occupational Diseases (revised in 2010), Recommendation 194, establishes hearing deterioration by noise as a disease caused by physical agents.

The following criteria are used by tripartite constituents to decide if a particular disease is included in the list:

1. There is a causal relation between the disease and an agent, an exposure, or a specific working process;
2. The disease happens in relation with the work environment and/or in specific occupations;
3. The disease takes place amongst groups of workers affected more often than the incidence average in the rest of the population;
4. There is scientific proof of a well-defined pattern of the disease after exposure and cause probability.

This Recommendation is similar to European Commission Recommendation 2003/670/EC concerning the European schedule of occupational diseases.

Regulation on labour noise exposure recognizes the problems faced in regulating noise on board ships; this means that noise on board is higher than healthy levels and that there is not a solution in sight. In the application of the exposed criteria, the degree and type of exposure, as well as the work or the occupation that implies an exposure risk, must be taken into account (ILO Recommendation 194). Therefore, it is difficult to understand why the problem of noise exposure on board is not extended to the whole crew. It must be taken into account that there can be crewmembers who are exposed to higher levels of daily exposure decibels than engine room workers, fulfilling the four criteria previously stated. This is the case for seafarers whose cabins are close to the engine room, forcing them to work, live, and sleep in a noisy environment.

Diseases caused by vibrations are unresolved in the maritime transport sector due to a lack of studies. With regard to the fishing sector, diseases caused by optical radiations start begin to be striking, as in the case of some sailors working in the Malvinas' waters who suffer from skin cancer due to the ozone layer hole.

However, the problem of occupational diseases is not exclusive to Spain. In fact, the European Commission publishes, in a periodical basis, criteria of occupational disease diagnosis with the aim that such diagnosis is made following uniform criteria within

the European Union [5]. Therefore, nowadays in Spain it is not possible to get an accurate idea of maritime transport sector "health" based on occupational disease statistics.

SECTOR DANGEROUSNESS

STATISTICAL DATA ON OCCUPATIONAL ACCIDENT RATES

Directive 89/391/EC on the introduction of measures to encourage improvements in the safety and health of workers at work was transposed to Spanish regulation by means of the Labour Risks Prevention Law 31/1995. This law is composed of a series of royal decrees. Amongst them, the most important is Royal Decree 39/1997, which approves the Regulation of Prevention Services, obeying a requirement established in Directive 89/391/EC.

This royal decree describes, amongst others, the List of Dangerous Activities, in which a dozen of activities such as construction, the iron and steel industry, and shipbuilding are included. These dangerous activities have a more demanding and more restrictive special consideration. Neither the maritime transport nor the fishing sectors are included in the list, in spite of the fact that fishing is considered by the European Union, by the World Health Organization, and by the ILO as one of the most dangerous professions [6].

Following, and in relation to the "dangerousness" of Maritime Transport, we are going to study the data published by the Statistics General Division of Employment and Immigration Department for the last ten years, summarized in Table 1.

From these data it can be inferred that:

- Nowadays maritime transport does not have a striking incidence index over the national average (but the studied data shows a clear trend to decrease in the national average and a clear trend to increase in maritime transport).
- In the maritime transport sector the percentage of serious accidents, on the total of accidents that resulted in leave, duplicates the national average and almost duplicates the construction sector average.
- The ratio of mortal accidents in maritime transport sector is five times higher than the national average and the construction sector values.
- The average duration of leave in maritime transport is the longest in the whole Spanish labour statistical panorama. Such an average is only comparable with that of the fishing sector. Both mari-

Table 1. Employment and Immigration Department Statistics. Maritime Transport Dangerousness data

	National average	Maritime transport	Construction sector	Fishing
Incidence index	64.6	82.5	-	-
Percentage of "serious" accidents (based on the total of accidents with leave)	1.13%	2.12%	1.30%	-
Percentage of fatal accidents (on the total of accidents with leave)	0.10%	0.51%	0.11%	0.70%
Duration of leave – average	22.6 days	32.5 days	-	-

time transport and fishing average duration of medical leave overcome almost in 50% the National Average.

ANALYSIS OF STATISTICAL DATA

Departing from a high, but not exaggerated, incidence index, the dangerousness of the maritime transport sector seems to increase with the seriousness of injuries. In maritime transport, the duration of leaves and percentages of serious and fatal accidents are the highest among the national statistics, only comparable with those of the fishing sector. Therefore, the maritime transport and fishing sectors should appear in the above-mentioned list of dangerous activities.

Its incorporation in the aforementioned list would mean:

- Obtaining the highest training level in Labour Risk Prevention, on the part of a great number of workers, both on board ships and ashore. This inclusion would mean 50 training hours (including specific training on maritime sector) instead of 30 hours, corresponding to the "B" content which is applied nowadays.
- When workers' designation modality is chosen to organize the resources for preventive activities, in accordance with RD 39/97, such workers should have a minimum training of 50 hours. In addition, this modality would only be suitable in companies with up to 250 workers (nowadays the workers' designation modality of organization can be applied in companies with up to 500 workers).
- In companies with more than 250 workers, the owner would constitute their own prevention service, with the guarantees that it entails and is subjected to external audits.
- Major control and dedication to the maritime sector on the part of the General Administration and Labour Authorities with more frequent regulation audits.

- The sector would have an individualized statistical treatment and the official recognition of maritime labour environment dangerousness.

NON-TRAUMATIC PATHOLOGIES

Statistical data on "non-traumatic pathologies" could give us some idea of the health condition of seafarers. "Non-traumatic pathologies" are defined by the Spanish Employment and Immigration Department [7] as those pathologies that are not strictly work accidents but, if they happen during the working day, are considered to be work accidents to legal effects and, like those, are declared to the corresponding labour authority. Heart attacks, brain haemorrhages, etc. are considered non-traumatic pathologies.

Since the change in the Accidents Report that took place in 2003, it is not possible to ascertain if deaths happened because of non-traumatic pathologies, by sector and activity branch. However, a study [8] carried out between 1999 and 2002 shows that 44.1% of deaths in the maritime transport sector were due to non-traumatic pathologies, as opposed to the national average of 28.4%.

Independently of the percentage value and from a medical point of view, it seems to be clear that the casuistry of non-traumatic pathologies at sea could be different to that on shore. Stress generated by separation from the family, alteration of dreams produced by shifts and nocturne work, deficient diet (low fresh food content and abuse of high-fat food), absence of exercise, fatigue, and even physical fear caused by some working circumstances, have a negative effect on the health of the seafarer.

CONCLUSIONS

- The maritime transport sector is undoubtedly a difficult sector to regulate and control from the labour risks prevention point of view. The hostile environment in which it develops is decisive: a mobile plat-

form at the mercy of atmospheric conditions, family separation, limited space, thermal and hygrometric conditions, multi-ethnic crews, inadequate diet, shifts and nocturne work, fatigue, etc.

- Seafarers are a workers' minority, and this situation puts a limit on the justification of deep studies of a medical, scientific, and/or technological kind.
- The Spanish Constitution [9], the European Union [10], and the United Nations [11] admit that the existing difficulties in the maritime transport sector, and demand that the corresponding Administrations report any advances obtained from time to time. Likewise, they demand that Administrations take additional preventive measures to mitigate the possible effects of these deficiencies.
- Workplace, noise, vibrations, fatigue, multifunctionality, information display units, flags of convenience, etc. are unresolved issues that need a solution if we want to improve the attractiveness of work at sea.
- At the European Community level and at the national level there exists a moral and legal duty to safeguard the working conditions of citizens, including those that develop their labour activity at sea.

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