EXPLANATORY MEMORANDUM TO

THE MERCHANT SHIPPING AND FISHING VESSEL (CONTROL OF VIBRATION AT WORK) REGULATIONS 2007

S.I. 2007 No. 3077

1. This explanatory memorandum has been prepared by the Maritime and Coastguard Agency and is laid before Parliament by Command of Her Majesty.

2. Description

2.1 The Regulations complete implementation of Council Directive 2002/44/EC of 25 June 2002 on the introduction of measures to protect workers from the risks related to vibration at work by extending to the maritime sector the duty on employers to reduce the risk to their employees' health resulting from exposure to vibration at work. Regulations introduced by the Heath and Safety Executive have already implemented the Directive for land based workers.

3. Matters of special interest to the Joint Committee on Statutory Instruments

3.1 None.

4. Legislative Background

- 4.1 Council Directive 89/391/EEC (the "Framework Directive") introduced general measures to encourage improvements in the safety and health of workers at work and was implemented by the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 (SI 1997/2962).
- 4.2 Council Directive 2002/44/EC (the sixteenth individual Directive within the meaning of Article 16(1) of the Framework Directive) introduced minimum safety and health requirements for the protection of workers from the risks related to exposure to vibration at work. The amended proposal for a vibration Directive proposed by the German Presidency in January 1999 was submitted and cleared by the Parliamentary Scrutiny Committees in March 1999, May 1999, November 2000, March 2001, November 2001 and April 2002.
- 4.3 The requirements of Directive 2002/44/EC, which build on the general safety and health provisions contained in the Framework Directive, are to be implemented for workers in the maritime sector by means of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007. Regulations introduced by the Heath and Safety Executive (The Control of Vibration at Work Regulations 2005 (SI. 2005/1093) have already implemented the Directive for land based workers and these new Merchant Shipping and Fishing Vessel Regulations, which follow the Directive's requirements, complete the United Kingdom's implementation of this Directive.

4.4 No legislation previously existed to safeguard the heath and safety of workers in the maritime sector from the risks arising from exposure to vibration at work.

5. Extent

5.1 This instrument applies to all United Kingdom ships whether they are in the UK or anywhere else in the world and to all seafarers on such vessels irrespective of nationality, ethnic origin, religion, gender etc. The regulations also apply to non-UK ships when in UK waters in the normal course of business, other than when exercising their right of innocent passage.

6. European Convention on Human Rights

6.1 As the instrument is subject to negative resolution procedure and does not amend primary legislation, no statement is required.

7. Policy background

- 7.1 The Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007 complete the UK implementation of Council Directive 2002/44/EC, concerning the introduction of minimum safety and health requirements for the protection of workers from the risks related to exposure to vibration at work. As mentioned above, corresponding Regulations have been produced for land based workers. It is necessary to make these Regulations to ensure application of the Directive to workers in the Merchant Shipping and Fishing Sectors to avoid disparity of regulatory coverage between land based workers and those working on ships. This is especially the case at the water margin, i.e. in dock and port areas, where land based workers (e.g. stevedores and other dock workers) could be working on board a ship alongside members of the crew.
- 7.2 The policy objectives of the Directive 2002/44/EC are to protect the health of workers from the risks arising from long-term exposure to high levels of HAV and WBV. The Directive allows for a limited amount of flexibility in its transposition, relating to transitional periods and derogations, and to the methods for setting action values and limit values for exposure to vibration. The Regulations require employers to identify which of their employees may be at risk from Hand Arm Vibration (HAV) and Whole Body Vibration (WBV), to assess the degree of risk and to introduce reasonably practicable measures to eliminate or minimise the risk. The Regulations fully reflect the Directive requirements.
- 7.3 Long-term exposure to HAV can lead to painful and disabling diseases such as vibration white finger, permanent loss of feeling in the hands, carpal tunnel syndrome and loss of grip strength. Vibration white finger and vibration-related carpal tunnel syndrome are prescribed diseases under the Industrial Injuries Disability Benefit Scheme. Between 3,000 and 4,000 new cases involving land based workers are assessed under the scheme each year. No separate information is available for the maritime sector. Vibration white finger is also a leading cause for compensation claims according to the Association of British Insurers.

- 7.4 WBV for land based workers is associated primarily with back pain in drivers, although there may be other factors contributing to back pain such as manual handling of loads, poor vehicle cab ergonomics and prolonged sitting in a constrained posture. Similar considerations may also apply to workers in the maritime sector, particularly those operating small fast craft such as Rigid Inflatable Boats (RIBs) and patrol vessels in less than ideal sea conditions.
- 7.5 Trades unions have been successful in pursuing compensation claims from employers for vibration white finger in a number of industries, notably coal mining, the gas industry and the rail industry.
- 7.6 The results of the public consultation on the Regulations are briefly summarised in section 3 of the attached Regulatory Impact Assessment. A more detailed summary of the responses can be found in the table at the end of the RIA.

8. Impact

8.1 A Regulatory Impact Assessment is attached to this memorandum at Annex 2

9. Contact

Michael Lines Maritime and Coastguard Agency Spring Place 105 Commercial Road Southampton SO15 1EG

Tel: 02380 329 246,

Fax: 02380 329 251

e-mail: mike.lines@mcga.gov.uk

can answer any queries regarding the instruments.

TRANSPOSITION NOTE

Relating to the implementation for the maritime sector of Council Directive 2002/44/EC of 25 June 2002 (the sixteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) on the introduction of measures to protect workers from the risks related to exposure to vibration at work.

The Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007 (in this note referred to as "the Vibration Regulations 2007) implement Council Directive 2002/44/EC for the maritime sector, which includes all commercial sea-going and inland waterway merchant and fishing vessels of whatever size. The regulations also apply to commercial and private pleasure vessels on which workers are employed. Implementation of the Directive in respect of workers employed in land based industries is the responsibility of the Health and Safety Executive, who have introduced Regulations to cover such workers.

The responsibility for implementation of Council Directive 2002/44/EC for the maritime sector rests with the Secretary of State through the introduction of new Regulations.

Maritime and Coastguard Agency Department for Transport

22 October 2007

TABLE RELATING TO IMPLEMENTATION OF ARTICLES OF DIRECTIVE 2002/44/EC

Article or Paragraph of Directive	Purpose of Article or Paragraph in Directive	Implementation in the UK by	
GENERAL PRO	VISIONS		
Article 1.1	States the purpose of the Directive	Transposition not required	
Article 1.2	States that the requirements of this Directive shall apply to activities in which workers are or are likely to be exposed to risks from mechanical vibration during their work.	Transposed by Regulation 4(1) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007	
Article 1.3	States that Directive 89/391/EEC shall apply fully to the whole area referred to in paragraph 1, without prejudice to more stringent and/or more specific provisions contained in this Directive.	Transposed by Regulation 4(4) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007	
Article 2	Sets out definitions of 'hand-arm vibration' and "whole-body vibration" for the purposes of the Directive	Transposed by Regulation 2(1) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007	
Article 3	Sets down "exposure limit values" and "action values" for both 'hand-arm vibration' and "whole-body vibration" and provides that exposure shall be assessed or measured on the basis of the appropriate provisions of the Annex to the Directive	Transposed by Regulation 5 of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007. Following consultation it was decided to use the same whole body vibration limits as the HSE	
SECTION II OBLIGATION O	SECTION II OBLIGATION OF EMPLOYERS		
Article 4.1 first sentence	Requires that in carrying out the obligations laid down in Article 6(3) and Article 9(1) of Directive 89/391/EEC, the employer shall assess and, if necessary, measure the levels of mechanical vibration to which workers are exposed. Measurement shall be carried out in accordance with Point 2 of Part A or Point 2 of Part B of the Annex to this Directive, as appropriate.	Transposed by Regulation 6(1) and (3)(c) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007	

Article 4.2 first sentence	The level of exposure to mechanical vibration may be assessed by means of observation of specific working practices and reference to relevant information on the probable magnitude of the vibration corresponding to the equipment or the types of equipment used in the particular conditions of use, including such information provided by the manufacturer of the equipment.	Transposed by Regulation 6(3)(a) and(b) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 4.2 second sentence	Requires that operation shall be distinguished from measurement, which requires the use of specific apparatus and appropriate methodology.	Transposed by Regulation 6(3)(c) and Schedule paragraph 1 + 2 of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 4.3 first sentence	Requires that the assessment and measurement referred to in paragraph 1 shall be planned and carried out by competent services at suitable intervals, taking particular account of the provisions of Article 7 of Directive 89/391/EEC concerning the necessary competent services or persons.	Transposed by Regulation 6(5)(a) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 4.3 second sentence	Requires that the data obtained from the assessment and/or measurement of the level of exposure to mechanical vibration shall be preserved in a suitable form so as to permit consultation at a later stage.	Transposed by Regulation 6(5)(b) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 4.4	Requires that pursuant to Article 6(3) of Directive 89/391/EEC, the employer shall give particular attention, when carrying out the risk assessment, to the following: (a) the level, type and duration of exposure, including any exposure to intermittent vibration or repeated shocks; (b) the exposure limit values and the exposure action values laid down in Article 3 of this Directive; (c) any effects concerning the health and safety of workers at particularly sensitive risk;	Transposed by Regulation 6(4) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
	(d) any indirect effects on worker safety resulting from interactions between mechanical vibration and the workplace or other work equipment;	

	(e) information provided by the manufacturers of work equipment in	
	accordance with the relevant Community Directives;	
	(f) the existence of replacement equipment designed to reduce the levels of exposure to mechanical vibration;	
	(g) the extension of exposure to whole- body vibration beyond normal working hours under the employer's responsibility;	
	(h) specific working conditions such as low temperatures;	
	(i) appropriate information obtained from health surveillance, including published information, as far as possible.	
Article 4.5 first sentence	Requires the employer to be in possession of an assessment of the risk in accordance with Article 9(1)(a) of Directive 89/391/EEC and shall identify which measures must be taken in accordance with Articles 5 and 6 of this Directive.	Transposed by Part of Regulation 6(5)(b) and (d) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 4.5 second sentence	Requires that the risk assessment shall be recorded on a suitable medium, according to national law and practice; it may include a justification by the employer that the nature and extent of the risks related to mechanical vibration make a further detailed risk assessment unnecessary.	Transposed by Regulation 6(2) and (5) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007 While the Regulations specify that the risk assessment be recorded, inline with HSE's Vibration Regulations, it was not considered appropriate to specify the medium to be used.
Article 4.5 third sentence	Requires that the risk assessment shall be kept up-to-date on a regular basis, particularly if there have been significant changes which could render it out-of-date, or when the results of health surveillance show it to be necessary.	Transposed by Regulation 6(5)(c) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
ARTICLE 5	Provisions aimed at avoiding or reducing exposure	
Article 5.1	Requires that, taking account of technical progress and of the availability	Transposed by Part of Regulation 7(1) of the Merchant Shipping and Fishing

of measures to control the risk at source, the risks arising from exposure to mechanical vibration shall be eliminated at their source or reduced to a minimum. The reduction of such risks shall be based on the general principles of prevention set out in Article 6(2) of Directive 89/391/ EEC.

Vessels (Control of Vibration at Work) Regulations 2007

Article 5.2

Requires that, on the basis of the risk assessment referred to in Article 4, once the exposure action values laid down in Article 3(1)(b) and (2)(b) are exceeded, the employer shall establish and implement a programme of technical and/or organisational measures intended to reduce to a minimum exposure to mechanical vibration and the attendant risks, taking into account in particular:

- (a) other working methods that require less exposure to mechanical vibration:
- (b) the choice of appropriate work equipment of appropriate ergonomic design and, taking account of the work to be done, producing the least possible vibration;
- (c) the provision of auxiliary equipment that reduces the risk of injuries caused by vibration, such as seats that effectively reduce wholebody vibration and handles which reduce the vibration transmitted to the hand-arm system;
- (d) appropriate maintenance programmes for work equipment, the workplace and workplace systems;
- (e) the design and layout of workplaces and work stations:
- (f) adequate information and training to instruct workers to use work equipment correctly and safely in order to reduce their exposure to mechanical vibration to a minimum;
- (g) limitation of the duration and intensity of the exposure;
- (h) appropriate work schedules with adequate rest periods;
- (i) the provision of clothing to protect exposed workers from cold and damp.

Transposed by Regulation 7(2)(a) - (i) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007

sentence	Requires that in any event, workers shall not be exposed above the exposure limit value.	Transposed by Regulation 6(4) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
sentence	Requires that if, despite the measures taken by the employer to comply with this Directive, the exposure limit value is exceeded, the employer shall take immediate action to reduce exposure below the exposure limit value. He shall identify the reasons why the exposure limit value has been exceeded, and shall amend the protection and prevention measures accordingly in order to prevent it being exceeded again.	Transposed by Regulation 7(5) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
	Requires that, pursuant to Article 15 of Directive 89/391/EEC, the employer shall adapt the measures referred to in this Article to the requirements of workers at particular risk.	Transposed by Regulation 7(7) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
	Worker information and training Provides that, without prejudice to Articles 10 and 12 of Directive 89/391/ EEC, the employer shall ensure that workers who are exposed to the risks from mechanical vibration at work and/or their representatives receive information and training relating to the outcome of the risk assessment provided for in Article 4(1) of this Directive, concerning in particular: (a) the measures taken to implement this Directive in order to eliminate or reduce to a minimum the risks from mechanical vibration; (b) the exposure limit values and the exposure action values; (c) the results of the assessment and measurement of the mechanical vibration carried out in accordance with Article 4 of this Directive and the potential injury arising from the work equipment in use; (d) why and how to detect and report signs of injury; (e) the circumstances in which workers are entitled to health surveillance; (f) safe working practices to minimise	Transposed by Regulation 8(1) and 8(2) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007

Article 7	Consultation and participation of workers	
	Requires that consultation and participation of workers and/or of their representatives shall take place in accordance with Article 11 of Directive 89/391/EEC on the matters covered by this Directive.	Transposed by Regulation 10 of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
SECTION III MISCELLANEO	US PROVISIONS	
Article 8	Health surveillance	
Article 8.1 first paragraph	Requires that without prejudice to Article 14 of Directive 89/391/EEC, Member States shall adopt provisions to ensure the appropriate health surveillance of workers with reference to the outcome of the risk assessment provided for in Article 4(1) of this Directive where it indicates a risk to their health. Those provisions, including the requirements specified for health records and their availability, shall be introduced in accordance with national laws and/or practice.	Transposed by Regulation 9(1) and (2) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 8.1 Para 1 - explanation of "health surveillance"	States that health surveillance, the results of which are taken into account in the application of preventive measures at a specific workplace, shall be intended to prevent and diagnose rapidly any disorder linked with exposure to mechanical vibration	Transposed generally by Regulation 9 of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 8.1 - Second sentence	Requires that such surveillance shall be appropriate where: — the exposure of workers to vibration is such that a link can be established between that exposure and an identifiable illness or harmful effects on health, — it is probable that the illness or the effects occur in a worker's particular working conditions, and — there are tested techniques for the detection of the illness or the harmful effects on health.	Transposed by Regulation 9(1), (2) and (3) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 8.1 - Third sentence	Requires that in any event, workers exposed to mechanical vibration in excess of the values stated in Article 3(1)(b) and (2)(b) shall be entitled to appropriate health surveillance.	Transposed by Regulation 9(1) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007

Article 8.2 first paragraph	Requires Member States to establish arrangements to ensure that, for each worker who undergoes health surveillance in accordance with paragraph 1, individual health records are made and kept up-to-date.	Transposed by Regulation 9(4) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 8.2 second paragraph	Requires that health records contain a summary of the results of the health surveillance carried out. They shall be kept in a suitable form so as to permit any consultation at a later date, taking into account any confidentiality. Copies of the appropriate records shall be supplied to the competent authority on request. The individual worker shall, at his request, have access to the health records relating to him personally.	Transposed by Regulation 9(4) and (5) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007 NOTE- although not required by the Directive, provision has been made in Regulation 10(5) for a worker to request that his health records be made available to any person specified by him. This could apply where a seafarer changes employer to ensure that the new employer is made aware of earlier health surveillance.
Art 8.3 first paragraph	Requires that where, as a result of health surveillance, a worker is found to have an identifiable disease or adverse health effect which is considered by a doctor or occupational health-care professional to be the result of exposure to mechanical vibration at work:-	Transposed by Regulation 9(3) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 8.3 (a)	the worker shall be informed by the doctor or other suitably qualified person of the result which relates to him personally. He shall, in particular, receive information and advice regarding any health surveillance which he should undergo following the end of exposure;	Transposed by Regulation 9(3)(a) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 8.3(b)	the employer shall be informed of any significant findings from the health surveillance, taking into account any medical confidentiality.	Transposed by Regulation 9(3)(b) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 8.3(c)	Requires that the employer shall: — review the risk assessment carried out pursuant to Article 4, — review the measures provided for to eliminate or reduce risks pursuant to Article 5,	Transposed by Regulation 9(3)(c) to(g) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007

	 take into account the advice of the occupational healthcare professional or other suitably qualified person or the competent authority in implementing any measures required to eliminate or reduce risk in accordance with Article 5, including the possibility of assigning the worker to alternative work where there is no risk of further exposure, and arrange continued health surveillance and provide for a review of the health status of any other worker who has been similarly exposed. In such cases, the competent doctor or occupational health care professional or the competent authority may propose that exposed persons undergo a medical examination. 	
Article 9	Transitional periods States that with regard to implementation of the obligations laid down in Article 5(3), Member States, after consultation of the two sides of industry, shall be entitled to make use of a maximum transitional period of five years from 6 July 2005 where work equipment is used which was given to workers before 6 July 2007 and which does not permit the exposure limit values to be respected, taking into account the latest technical advances and/or the organisational measures taken.	Transposed by Regulation 7(8) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
	With regard to equipment used in the agriculture and forestry sectors, Member States shall be entitled to extend the maximum transitional period by up to four years.	The reference to the agriculture and forestry sectors is not relevant to shipping and has therefore not been transposed.
ARTICLE 10	DEROGATIONS	
Article 10.1	States that, in compliance with the general principles of health and safety protection for workers, Member States may, in the case of sea and air transport, derogate from Article 5(3) in duly justified circumstances with respect to whole-body vibration where, given the state of the art and the specific characteristics of workplaces, it is not possible to comply with the exposure limit value despite the technical and/or organisation measures taken.	Transposed by Regulation 12(1) and (2)(a) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007

Article 10.2	States that where the exposure of a worker to mechanical vibration is usually below the exposure action values given in Article 3(1)(b) and (2)(b) but varies markedly from time to time and may occasionally exceed the exposure limit value, Member States may also grant derogations from Article 5(3). However, the exposure value averaged over 40 hours must be less than the exposure limit value and there must be evidence to show that the risks from the pattern of exposure to the work are lower than those from exposure at the exposure limit value.	Transposed by Regulation 12(2) and (3) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 10.3 first sentence	States that the derogations referred to in paragraphs 1 and 2 shall be granted by Member States after consultation of the two sides of industry. Such derogations to be accompanied by conditions which guarantee that the resulting risks are reduced to a minimum and that the workers concerned are subject to increased health surveillance.	Transposed by Regulation 12(4) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 10.3 second sentence	Requires that derogations shall be reviewed every four years and withdrawn as soon as the justifying circumstances no longer obtain.	Transposed by Regulation 12(5)(b) and (c) of the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
Article 10.3	Requires that every four years Member States shall forward to the Commission a list of derogations as referred to in paragraphs 1 and 2, indicating the exact reasons and circumstances which made them decide to grant the derogations.	Transposition not required
Article 11	Technical amendments Sets out the procedure whereby the Commission shall make technical amendments to the Annex of the Directive.	Transposition not required
Article 12	Committee States that the Commission shall be assisted by the Committee referred to in Article 17(2) of Directive 89/391/EEC.	Transposition not required

SECTION IV - FINAL PROVISIONS		
Article 13	Reports	Transposition not required
	Requires that every five years Member States shall provide a report to the Commission on the practical implementation of the Directive.	
Article 14	Transposition	Transposition not required
	Sets out requirements relating to Transposition Date and notification to the Commission of the laws adopted to give effect to the Directive.	
Article 15	Entry into force States the Directive shall enter into force on the day of its publication in the Official Journal of the European Communities.	Transposition not required
Article 16	Addressees States the Directive is addressed to the Member States.	Transposition not required
Annex	Sets out provisions relating to Assessment of exposure, Measurement and Interference for both Hand-Arm and Whole-Body Vibration	Transposed by the Schedule to the Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007

REGULATORY IMPACT ASSESSMENT

1. TITLE OF PROPOSALS

The Merchant Shipping and Fishing Vessel (Control of Vibration at Work) Regulations 2007 (the "Vibration Regulations") implementing Council Directive 2002/44/EC on the introduction of health and safety requirements in respect of the exposure of workers to physical agents (vibration).

2. PURPOSE AND INTENDED EFFECT OF MEASURES

Objectives

The Vibration Regulations give effect, in respect of the maritime sector, to Council Directive 2002/44/EC on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration). Regulations to implement the Directive for land-based workers have already been introduced by the Health and Safety Executive and these new maritime Vibration Regulations will complete UK implementation by extending the provisions of the Directive to workers in the maritime sector.

Background

Council Directive 89/391/EEC (the "Framework Directive") introduced general measures to encourage improvements in the safety and health of workers at work and was implemented by the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 (as amended) (the "General Duties" Regulations). Directive 2002/44/EC is a "daughter" Directive of the Framework Directive and builds on its requirements by introducing specific requirements relating to minimum safety and health requirements for workers likely to be exposed to vibration at work. There is no current merchant shipping legislation covering the provisions of Directive 2002/44/EC.

Rationale for government intervention

The Directive came into force in July 2002 and was required to be implemented by 6 July 2005 except where otherwise provided by the Directive. The Health and Safety Executive have implemented regulations for land based industry but those regulations do not apply to the master and crew of a UK ship in respect of normal shipboard activities. New regulations applying the provisions of the Directive to the maritime sector are therefore required to complete full UK implementation of the Directive.

3. CONSULTATION

(i) Within Government

The Devolved Administrations and other Government Departments with a perceived interest in the subject were included in the consultation exercise.

(ii) Public Consultation

Some 323 consultees were included in the consultation exercise of which 207 covered the Merchant Shipping sector including the Chamber of Shipping (the trade association for the majority of UK shipowners), individual shipowners/operators and associations representing small vessel owners/operators. The remaining 116 consultees covered the fishing sector, from local associations to those at national level. In addition to the consultees referred to, who were sent hard copies of the consultation documents, electronic copies of the consultation documents were available for reference on the Maritime and Coastguard Agency website.

Separate Government specific consultation was not undertaken. However those Government Departments and Agencies, including those in the devolved administrations, appearing to have a direct interest in what is proposed were consulted as part of the general consultation process. Eight responses were received of which one offered no comments. Of the remainder:-

- two were from non-UK Classification Societies, who made comments on the Regulations which were not directly related to implementation of the EC Directive;
- the UK Maritime Pilots Association were concerned that pilots be covered by the Regulations;
- the Ministry of Defence sought the inclusion of an exemption covering personnel engaged in matters relating to national security;
- the Chamber of Shipping (the UK Shipowners' Organisation) and NUMAST (now Nautilus UK - a Seafarer's Trade Union) both raised detailed points on the draft Regulations
- Human Sciences & Engineering Limited raised very detailed proposals which went beyond the requirements of the Directive and which were, in many instances, primary for consideration by the employer.

More detailed information on the comments received, and the responses to them, is contained in the table at the end of this Regulatory Impact Assessment.

4. OPTIONS

The alternatives available in respect of implementation of the Vibration Directive were to:-

- (a) do nothing;
- (b) rely on the provisions of the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 (which implemented the Framework Directive) supplemented by guidance to implement the Vibration Directive;

- (c) introduce a new single set of regulations to implement the framework Directive and all the daughter Directives (including this one), the text of which would be schedules to the regulation; or
- (d) introduce a set of regulations to implement only this Directive

So far as options (a) and (b) are concerned only by implementing all of the provisions of the directive in regulations would the UK implement the directive in accordance with Community law.

Option (c) whilst feasible was also not considered to be a realistic option as there are currently several Directives in the pipeline for implementation, each of which would require amendment to what would become a bulky single set of frequently amended regulations. The result of this would be a set of regulations which was not user-friendly and would require cross referencing to amending regulations.

Option (d) is therefore considered the most sensible way to proceed as it permits easy identification of provisions relating to noise. This option also accords with the route adopted by HSE in their regulations thus permitting easier read across between the land-based regulations and those applicable to the maritime sector. This is essential where land-based workers e.g. stevedores covered by HSE's regulations might be working on board ships to which the maritime regulations apply.

5. COSTS AND BENEFITS

(i) Sectors and Groups Affected

Those primarily affected will be operators and managers of ships, fishing vessels, and other marine craft, including yachts, work boats etc which are registered in the UK and which have workers working on them. The Vibration Regulations will apply also to any non UK vessels when operating in UK waters and also to charities and similar organisations which operate vessels. In the latter case however it will only apply to workers employed on such vessels, and not to unpaid volunteers.

(ii) Benefits

The proposal is intended to standardise the provisions relating to worker protection from vibration, throughout all EC Member States such that a "level playing field" applies to owners/operators of all EC registered vessels.

iii) Costs

a. Compliance costs

Consultees were asked to provide information on any costs that they envisaged would be incurred as a result of the introduction of the regulations. No information was received from either shipowners/operators or maritime unions regarding the potential for increased costs. Two other respondees one a classification society and the other a firm of consulting engineers - did comment that there could be additional costs incurred but neither quantified

the level of such costs. This may not be as surprising as it seems because, as stated earlier, the Vibration Directive is a daughter Directives of Directive 89/391/EEC (the "Framework Directive") which sets down general requirements relating to the health and safety of workers, such as the carrying out of risk assessments to identify risks; removal or alleviation so far as possible of risks identified etc. The Vibration Directive simply adds to these requirements by introducing more specialised requirements relating to vibration and it is likely therefore that many of the requirements will already be under consideration by owners/operators.

b. Other costs

No specific information was received from either shipowners/operators or maritime unions regarding the potential for increased costs. There is a potential effect on international competitiveness in that the Vibration Regulations will implement a Directive which all EU Member States must bring into force in respect of the vessels on their registers. In addition there is potential for a reduction in the number of cases of vibration related injuries or conditions arising from exposure to vibration at work, with potential savings to the health services or removal of the need to pay benefits to seafarers who can continue to work rather than being declared unfit for service as a result of vibration related diseases.

c. Costs for a typical business

Given that no specific cost data was received from respondees to the consultation exercise it can only be assumed either that no additional costs will be incurred or that any costs will be minimal.

6. SMALL FIRMS IMPACT TEST

No comments were received on this point. As the regulations implement an EC Directive, there is effectively no scope to minimise further, than has been done already, the effect on small firms. In addition given that these provisions build on the requirements introduced by the Framework Directive, it is likely that many of the requirements will already be under consideration by owners/operators and the overall impact will be low.

7. COMPETITION ASSESSMENT

No comment was made on this point. As the regulations implement an EC Directive, there is effectively no scope to minimise further, than has already been done, the effect on competition. To do otherwise than fully implement the Directive could invite the risk of infraction proceedings.

8. ENFORCEMENT, SANCTIONS AND MONITORING

Enforcement - The provisions of the Vibration Regulations will be enforced by means of inspections carried out by Surveyors/Inspectors from the Maritime and Coastguard Agency. No additional cost for MCA is envisaged as a result of this.

Sanctions - The Vibration Regulations contain criminal sanctions for non-compliance as the measures being introduced are intended to improve the health and safety of workers on board UK ships and fishing vessels. No additional cost for MCA is envisaged as a result of this.

Monitoring - Compliance with the Vibration Regulations will be considered as part of the overall inspection regime for both UK and non-UK ships. No additional cost for MCA is envisaged as a result of inspection under Vibration Regulations. The Vibration Regulations 2005 provide that any contravention of relevant provisions shall be an offence, punishable on summary conviction by penalties on summary conviction of fines ranging from level 3 on the standard scale up to the statutory maximum. For certain more serious offences provision is also made for penalties on conviction on indictment of imprisonment for a term not exceeding two years or a fine or both.

9. IMPLEMENTATION AND DELIVERY PLAN

As the proposals are intended to implement the provisions of an EC Directive, there is virtually no scope for flexibility in the method of implementation. It is a requirement that all provisions are fully implemented in UK legislation and this is what we are proposing to do. However in doing so we have, in accordance with government policy, gone no further than the minimum necessary to implement the Directive (i.e. there is no "gold-plating").

The Vibration Regulations themselves implement the Directive, but additionally a detailed Marine Guidance Note has been prepared which will be available free of charge and will provide detailed guidance on the requirements of the regulations and how they can be met.

10. POST-IMPLEMENTATION REVIEW

Since these proposals implement an EC Directive the use of "sunset clauses" is not appropriate as the Regulations will need to remain in force until such time as the Directives are either revoked or amended by the EC.

As with other EC occupational health and safety directives, there is a requirement to report to the European Commission every five years on the practical implementation of the directive.

11. SUMMARY AND RECOMMENDATION

The proposed Vibration Regulations are intended to implement for the maritime sector Council Directive 2002/44/EC which introduces health and safety measures intended to protect workers from risks arising from vibration. These regulations complement similar regulations already made by the Health and Safety Executive for land based workers and are necessary to complete the United Kingdom's implementation of this Directive. It is therefore recommended that the Vibration Regulations be made as drafted.

12. DECLARATION

I have read the regulatory impact assessment and I am satisfied that the benefits justify the costs

Signed Jim Fitzpatrick.

Date 25th October 2007

Minister's name,

Title,

Department

Contact point:

Michael Lines Seafarer Health and Safety Branch Maritime and Coastguard Agency Spring Place 105 Commercial Road Southampton SO15 1EG

Tel: 02380 329 246 Fax: 02380 329 251

Email: mike.lines@mcga.gov.uk

RESPONSES TO MCA CONSULTATION ON DRAFT MERCHANT SHIPPING AND FISHING VESSEL (CONTROL OF VIBRATION AT WORK) REGULATIONS

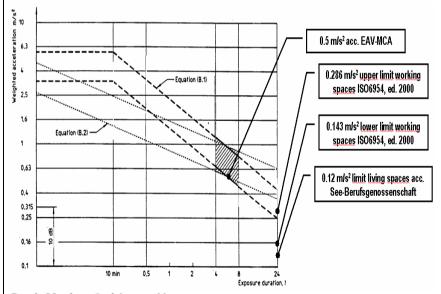
CONSULTEE	CONSULTEE COMMENTS	INITIAL MCA RESPONSE
British Marine Federation	Have no comment to make	
Germanischer Lloyd	Draft regulations Hand-arm vibration is not a seen as typical vibration risk for seafarers and, consequently, GL has only minor experience in this respect and does not comment on this issue. May be, it would be simpler to just refer to the regulations for land-based applications in this respect because there is seen no difference between using a vibrating tool at land or at sea.	
	Two kinds of whole body vibration should be distinguished more clearly: a) periodic, transient vibration (jolting) as encountered in small fast craft when travelling through waves (slamming impacts). Health risk is originating from impacts directly introduced into the backbone and can be easily avoided by alteration of vessel speed, course or, if not possible, seat arrangement/damping. Such vibration may become important for small and fast craft or small vessels operating often in severe sea way, .e.g. naval and high speed craft, fast yachts, offshore supply-vessels, rescue boats.	So far as sub paragraphs (a) and (b) above are concerned they are more appropriate for inclusion in the supporting Marine Guidance Note than in the regulations.
	b) periodic, stationary vibration as mainly induced by propeller and main engines. Health risk originates from permanent working and living in a vibrating and noisy environment causing not direct physical damage but may be leading to discomfort, sleep disorder, lack of concentration etc This type of vibration is mainly encountered on sea going vessels as, e.g., multi-purpose	

vessels, tankers, bulkers and container ships.

It seems that the draft regulations shall cover primarily type a). This should be emphasised more clearly because limit values regarding vibration of type b) are provided also in other guidelines internationally agreed on, i.e. ISO 6954, ed. 2000. The limits provided in the draft regulations may conflict with this guideline.

It should be noted that the German See-Berufsgenossenschaft, being responsible for vibration limit values onboard vessels of German flag, harmonized its vibration evaluation procedure with ISO 6954, ed. 2000 (applicable for type b) vibration only).

Provided that our interpretation of the measurement evaluation acc. ISO 2631-1:1997 is correct, a daily exposure action value (EAV) of 0.5 $\,$ m/s² for type b) vibration represents a considerably less stringent criterion than recommended in ISO 6954, ed. 2000, see illustration below.



Draft Marine Guidance Note

The relationship to ISO 6954, ed. 2000, if any, should be described.

The Regulations only implement the provisions of EC Vibration Directive 2002/44/EC and it is not therefore appropriate to include provisions not included in that Directive.

As indicated above ISO 6954, ed 2000 is not referred to in the Directive and is thus not appropriate for inclusion in the proposed regulations.

As indicated above ISO 6954, ed 2000 is not referred to in the Directive and is thus not appropriate for inclusion in the proposed regulations.

As indicated previously ISO 6954, ed 2000 is not referred to in the Directive and is thus not relevant to its implementation by means of the proposed regulations.

Additional Cost due to Extension of risk assessment to Exposure to Vibration

Certainly, there will be additional cost for the employer due to the organisational requirements for conduct and documentation of health surveillance and training.

Considerable cost will be caused by the measurement of vibration levels since they are dependent on loading condition (type b) and consequently must be measured during normal ship operation by a trained expert (cost estimate 5 to 10k€). Contrary to sea trial measurements, such in-service measurements are presently not standard in merchant shipping and are conducted in case of specific crew complaints only.

If measurements reveal too high vibration levels, realisation of adequate countermeasures may imply considerable cost (cost estimate 50 to 200 k€) and, eventually, down-time and off-hire situations.

Derogation of exposure to vibration from work equipment until 6 July 2010

We agree with this provision since vibration stemming from the work equipment is very rare in the marine environment. As stated above, the respective regulations should comply with those valid for land-based equipment.

Asked employers to indicate any additional costs but received very little information. Both risk assessment and health surveillance are already required under the MS and FV (Health and Safety at Work) Regulations 1997, so much of the associated cost is already likely to be covered.

As indicated above industry have made no mention of increased costs arising from the proposals. It is also noticed that whilst reference is made to costs incurred in measuring type "b" vibration, it was stated earlier in response that the draft regulations covered primarily type a) vibration. Taking account of this, and given that the third sentence of Paragraph 1 of Part B (Whole Body Vibration) of the Annex to the Directive (as reflected in paragraph 4 of the Annex to the proposed Vibration Regulations) provides that only vibrations of a frequency exceeding 1Hz need be considered in the case of Merchant Shipping, Respondee was asked if this altered their view regarding costing however no further response was received.

See preceding comment which also applies here.

Noted. However the date of 6 July 2010 provided for in regulation 8 of the regulations will only apply to work equipment which was provided prior to 6 July 2007 AND which despite the latest technical advances and organisational measures does not permit compliance with the exposure limit values BUT in such cases the employer is required to take such measures as are provided for in the

		regulations to limit exposure to mechanical vibration so far as reasonably practicable.
Chamber of Shipping	Regulation 9(6)	
	This places a duty on seafarers to present themselves for health surveillance whenever their employer required and funded it, but that the Regulations contained no penalty for non-compliance by a seafarer. (The same issue occurs in Regulation 9.7 of the Noise Regulations.) Under the directive, workers have the right to health surveillance, hence this is an example of gold-plating and should be brought into line with the Directive. Regulation 10 (now regulation 12)	The point made is noted however the Vibration Directive requires a Member State to adopt provisions to ensure the appropriate health surveillance of workers. Such provisions are to be introduced in accordance with national laws and/or practice. In drafting the MS & FV (Control of Vibration at Work) Regulations lawyers have followed the provisions of the Control of Vibration at Work Regulations 2005, introduced by HSE for land based workers, which contains the provision to which you refer. This provision has subsequently been amended by removing the compulsion on the seafarer to present themselves
	The Government has included provision for derogations in respect of sea and air transport, as permitted by the directive. However it appears to have inserted an additional requirement, that the total exposure value averaged over 40 hours be less than the exposure limit value. This provision is mentioned in Article 10(2) of the directive but the Chamber's reading of this is that it does not apply to sea (or air) transport.	Chamber's interpretation noted and clarified with lawyers. Article 10 actually provides for two separate derogations. Paragraph 1 provides for a derogation, "in the case of sea and air transport" and "in duly justified circumstances" to comply with "exposure limit values" where, given the state of the art and specific characteristics of the workplace it is not possible to comply with the exposure limit values despite the technical and/or organisation (al?) measures taken. Paragraph 2 on the other hand provides for derogations in particular cases where the exposure is usually below the "exposure action value" but varies markedly from time to time and may occasionally exceed the "exposure limit value". Therefore see paragraph 1 as applying to ships where compliance with exposure limit values could be a regular problem e.g. because of exposure to weather conditions or the design of the vessel etc, whereas paragraph 2 would apply in cases where the exposure limit value and exposure action value were not a regular problem e.g. when by its nature a vessel only went to sea occasionally or exposure to vibration was of a very intermittent nature.

MGN Annex A

The final statement concerning gloves is inappropriate, since gloves do not provide protection against vibration.

HSE made a similar comment. Propose therefore amending the reference to "Clothing to read as follows:-

"Clothing

Provide workers with protective clothing when necessary to keep them warm and dry. This will encourage good blood circulation which should help protect them from developing vibration white finger. However in this context whilst gloves can be used to keep hands warm, they will not themselves provide protection from vibration".

MGN Annex B

The words "caused or made worse by work" in paragraph 3 are misleading and should be deleted.

The information was taken from an HSE leaflet entitled "Control back-pain risks from whole-body vibration". Would not therefore propose removing the words "caused or made worse by work" however to put the figures more in context we would be agreeable to rewording the first part of the paragraph to read:-

"One of the primary health effects of whole body vibration may be back pain. In the UK as a whole over five million working days are lost each year due to back pain caused or made worse by work. However these figures include land based workers, including those working on off-road mobile machinery, agricultural vehicles or industrial trucks and also include back pain caused by work and non-work activities where the latter is made worse by work. However caused back pain can lead to time off work, loss of productivity and compensation claims. Workers on vessels operating at high speed, especially fast patrol type craft, such as police launches, customs cutters, pilot boats etc, and RIBS are likely to be at an increased risk from back pain, subject to the conditions in which they are operating, in addition to other health risks that may arise from exposure to whole body vibration."

	MGN Annex C	
	Paragraph 3 refers to Raynaud's Disease. The Chamber questions whether a person with Raynaud's Disease would be fit enough to be at sea at all. We suggest that the sentence finish after the words "particular risk".	Comment re "Raynaud's Disease is noted. Would however propose just deleting the words: "such as Raynaud's Disease" and leave the rest of the sentence as it is.
UK Maritime Pilots Association	Would like to see Pilot boats mentioned. Considering the fact that pilot boats transit in the most atrocious weather conditions 365 days a year, noise and vibration is a serious consideration.	Both sets of regulations apply in full to Pilot Boats. Exemptions may, in certain limited circumstances, be granted as provided for in the Regulations but only when it is shown that it is not physically possible to comply with the specific provisions for which an exemption is permitted by the Directives.
	Derogation is just another result of commercial operators lobbying. Noise and vibration has been discussed for decades.	As the derogations are contained in the Directives they can be utilised in appropriate cases. The MGN will however make clear that any exemptions will not automatically be extended and it will be for companies applying for a new exemption to make clear why, during the period of the previous exemption, it has not been possible to introduce arrangements to meet the requirements of the regulations.
Bureau Veritas	In general, we have no comment on the actual regulations as these are relatively formal requirements which cannot be amended. Our main comments thus refer to the Marine Guidance Notes (MGN's) which are as follows: MGN (Vibration) Page 16, Section 2.	
	This section refers to whole body vibration and gives examples of smaller high speed craft as likely examples of significant vibration - which is totally reasonable. But the text then goes onto discuss out of alignment and worn machinery as other examples. It is considered that whole body hull girder vibration should be added to the examples - as in that case high vibration levels are likely to be experienced over large areas of the vessel (rather than just in localised areas close to given items of machinery) which means that it is difficult to effectively reduce	Useful comment re whole body hull girder vibration. Reference to whole body hull girder vibration will be included in the MGN.

		,
	the time of the high vibration exposure. In terms of alleviation, vessels which experience hull girder problems often have a barred speed range - primarily to prevent structural fatigue in critical areas of the vessel - but risk to personnel is also now a relevant supplementary factor that might need to be addressed.	
HUMAN	Whole Body Vibration	
SCIENCES & ENGINEERING LTD	Aim – good that someone is trying to reduce exposure and improve health	
	The document states that the action value and limit will be exceeded in RIBs etc. We have been able to demonstrate that the limit can be exceeded by a large margin.	Comment noted
	Of the two vibration measures described, the WBV in High Speed Craft (HSC) should use the VDV rather than the RMS as this takes more account of the 'shocks', but, we believe that this measure still does not appropriately characterise the exposure. It may be that other measures e.g. ISO 2631 Part 5 (repeated shock) need to be used. We can provide more information on this if required.	Comment re use of VDV rather than RMS in the case of High Speed Craft is noted. However the Ministry of Defence have commented that RMS was incorporated in the HSE Regulations (which do apply to Royal Navy Vessels) because it was easier to measure. Our inclination is therefore to follow HSE's line and opt for RMS to ensure continuity between HSE's regulations and ours (which do not apply to RN vessels but do apply to other Government vessels including Royal Fleet Auxiliary vessels). Having sought further comments from ship operators have followed HSE and used RMS
		Reference comment that other measures, e.g. ISO 2631 Part 5, may need to be used, this would be a matter for employers to decide as it is not a requirement of the Directive.
	It states that measurement 'must be representative of the personal exposure of the worker'. Therefore 3 axes measurements should be undertaken as although the vertical is the greatest, anecdotal evidence from experienced coxswains/crew describe the lateral shock and vibration as causing high levels of discomfort and potential injury. Also pitch roll and yaw are not considered.	Again for employer decision as this is not a requirement of the Directive.

It states 'the measures used must be representative of the personal exposure' – 'the methods used must be adapted to the particular characteristics of the mechanical vibration'. As the conditions experienced in a RIB or HSC are unpredictable, and the duration of the exposure needs to be flexible, it is very difficult (impossible?) to assess the exposure from 'observations' and estimates of 'probable magnitudes'

As above, this is a matter for the employer or their consultant to decide as the Regulations will apply to all vessels not just RIBs.

Quantitative measures of exposure will be required so that reductions in exposure can be ascertained where new technology/working practices are adopted (article 7). Where should these data be held, is there to be a prescribed format?

Not sure where the reference to article 7 comes from as article 7 refers to consultation and participation of workers. However this would in any event be a matter for industry/employers to decide

Article 6(3) (This actually appears to refer to Regulation 6(4) of the Draft Regulations or Article 4.4 of the Directive)

A – The appropriate measurement equipment should be used so as to capture valid shock data. The measurements must be taken in the worst case scenario – therefore the only way to get this is via the process of continual data collection and analysis.

Unfortunately exposure measure always seems to coincide with calm sea conditions! Therefore the only effective solution is to fit craft with stand-alone data acquisition equipment.

C- Are people at risked those with previous injuries? – what is the definition of sensitive?

 $\mathsf{D}-\mathsf{Very}$ important. The vibration induces 'motion-induced-fatigue'. We have undertaken testing on this and found that physical and cognitive performance is degraded. Therefore the crew's ability to operate the craft may be compromised and the crew/passengers ability to undertake tasks when they reach their destination will also be reduced.

E – The manufactures do not provide any information on potential exposure. It is unlikely that they will be able to provide worst case data, and it is likely to be difficult for them to provide any meaningful data so that employers could make an informed choice for a craft that provides

Comment noted.

Comment noted

See paragraph 5 of Annex B to the draft Vibration Marine Guidance Note

Passengers are not directly covered by the regulations, which apply to workers, except in so far as they may be subject to vibration whilst on a vessel. So far as the crew are concerned this is a matter that employers should consider when undertaking their risk assessment and putting remedial measures in place.

Noted. However manufacturers may well find it of benefit to produce this information should they receive requests from potential customers for it.

less exposure than another (i.e. standardised data presentation). e.g. different hull characteristics will/may provide different vibration exposure in the same sea conditions. Therefore it may be appropriate for someone to initiate a programme of exposure measures on a wide range of craft that could be used by manufactures as part of their craft documentation.

F – The risk assessment procedure will require objective information on the ability of (replacement) equipment to reduce exposure, e.g. seating, hull form, etc. Who generates this data?

G – What happens where there are no 'normal' working hours (e.g. emergency/rescue services & MOD)? More advice is needed on multiday cumulative exposure, based on long term exposure measures so that average '40-hour' exposures can be studied, and the potential influence on health examined.

H – There is no mention of hot temperatures – there is evidence that exposure to whole body vibration reduced the efficiency of the bodies cooling mechanisms in a hot environment, and lead to increases in core temperature when compared to heat exposure alone (reference can be supplied if required).

Noted. This would appear to be for manufacturers, standards organisations etc.

Royal Navy vessels are not covered by these regulations as they are subject to HSE's Control of Exposure to Vibration Regulations 2005. Other military vessels operated by MOD fall within the definition of public service vessels and they, as well as any vessels engaged in search and rescue, are covered by the derogation in regulation 3(1) which allows for disapplication to the limited extent necessary to enable public service vessels to carry out their specialist activities - e.g. police launches pursuing another vessel - or other vessels to go to the assistance of persons, vessels or aircraft in distress. In all ordinary circumstances however the Regulations apply in full, and even on rare occasions where full application is not possible for the reasons stated, the health and safety of workers still has to be ensured so far as is reasonably practicable. The same provision is contained in the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations which implemented the "Framework Directive" (Directive 89/391/EEC).

This is because this is not mentioned in the Directive. However regulation 6(4)(h) does actually state ".. the effect of specific working conditions, such as low temperatures." This is illustrative only and should not be taken as only meaning low temperatures. We will however consider whether it is appropriate to refer specifically to hot as well as cold temperatures in the associated Marine Guidance Note.

I – Health surveillance. Knowledge on this appears to be very limited. A definition of 'appropriate health surveillance' is required, particularly with how this should become more comprehensive with increasing exposure.

On the basis that these comments relate to Regulation 5(4) of the Draft Regulations or Article 4.4 of the Directive it should be noted that the reference is not to "appropriate health surveillance" but to the consideration, by an employer when carrying out a risk assessment, of "appropriate information obtained from health surveillance, including published information, as far as possible". These regulations are new and therefore detailed information arising from health surveillance may not be available as, apart from the general health surveillance requirement in the MS & FV (Health and Safety at Work) Regulations 1997, detailed health surveillance information in respect of vibration may not be available. As time goes on however compliance with these regulations is likely to increase the amount of information available to employers from health surveillance.

Article 5

Technical progress – technical solutions are available to reduce vibration but many of them are too large and heavy to be put onto RIBs – and therefore not operationally feasible.

Limiting durations and work schedules – advice is needed on the cumulative effects and on the 'rest' periods required following an exposure that was above the limit value. i.e. this will help to identify potential manning issues and solutions.

Health Surveillance

What is 'appropriate' when the limit is exceeded? Is this a questionnaire that is administered more often, or a medical check-up that includes MRI scans etc?

Comment noted, however, as indicated previously these are general regulations applicable to all vessels and not just RIBs. Additionally, whilst technical solutions may be too large and heavy for RIBs now, that does not mean that solutions may not be found in the future. These regulations might well stimulate the finding of solutions.

Given that circumstances can vary from vessel to vessel depending on the uses to which the vessel is put and the conditions in which it operates, this would appear to be a matter for employers/industry.

What constitutes health surveillance is primarily a matter for the employer to decide in the light of advice provided by any health surveillance provider engaged by the employer. Much will depend upon the circumstances in which the limit is exceeded and how regularly. However the primary aim of any employer should be to seek to prevent the limit being exceeded.

Derogations (3): 'resulting risks are reduced to a minimum and that workers concerned are subject to increased health surveillance'. What is meant by 'increased'?

Annex 2 WBV

Paragraph 13 implies that RIBs etc will only exceed the limit during 'long' exposures. Data has shown that this is not the case and the limit can be exceeded in a few minutes in 'relatively' benign conditions. Therefore it is only by having some form of measurement that employees/employers will be able to know if the limit has been exceeded.

It states that 'It is likely to be more effective for employers to direct their efforts towards controlling the risks rather than trying to assess vibration exposures precisely'. There will only be so much that employers can 'practically' do to reduce risk. Therefore where exposure is over the limit it will be necessary to record the magnitude and duration so that it evident of how far over the limit the exposure has gone – and then be able to relate this to the employee's health records.

Paragraph 14 - RIBs are used in conditions that the manufacturers would not consider collecting data in (e.g. at night in a SS 5). Also, they often do not understand the operational requirements to the extent where they are in a position to provide advice.

Regulation 12(4)(c) makes clear that where an exemption is issued by the Secretary of State, health surveillance is to be increased to a level considered appropriate by the Secretary of State. It is not possible to be more specific as each application for an exemption will have to be treated on its merits.

In the light of this comment we would propose deleting the words "....for long periods..." from paragraph 13 of Annex B of the draft Marine Guidance Note.

The primary requirement of the regulations is for employers to ensure that workers are not exposed to vibration in excess of the limits specified. The regulations, and the related Marine Guidance Note, set out ways in which this can be achieved including reducing speed and reducing the time spent on a vessel. Where exposure is over the limit it will not be just a matter of recording the magnitude and duration and relate this to the employee's health record but of taking measures to reduce exposure below the limit. If despite this it is not possible to reduce exposure below the limit it will be open to the employer to apply to the Secretary of State for an exemption as set out in regulations 12(1) and (2) of the regulations. Such exemptions will not be automatic and will effectively require an employer to prove why it is not possible to comply.

This may well be the case given that there are currently no regulations covering the effects of vibration on workers on ships etc. It is to be hoped however that the new regulations will stimulate manufacturers into providing such information to employers seeking it.

Other comments:

Personnel sometimes wear equipment which will lead to an increase in leg and body fatigue due to having to cope with vibration and repeated shocks.

How are employers expected to keep a record of employee exposure? - this should allow for annual monitoring (e.g. number of hours/year). How should this include the magnitude of the shock and vibration?

Employers are likely to need guidance on how to apply for an exemption to the exposure limit – will the MCA produce an instruction document on this?

Health surveillance; is intended to 'identify disease at an early stage' and 'prevent and diagnose rapidly and disorder linked with mechanical vibration'. With regard to WBV, medical opinion appears divided on what can be done. Some consultants believe MRI scanning is a useful tool (this is supported by evidence from fast jet pilots with neck injuries), whereas other doctors believe imaging doesn't work and that pain is the only useful indicator. More work is required on this.

WBV can be assessed where employees sit on a seat. It is not possible to accurately assess the exposure on a typical RIB seat where the operator both sits and stands, depending on the conditions. Therefore a new method of assessing exposure is required for this type of scenario.

Suggestions

A monitoring system should be introduced that tracks the motion of the craft when it is operating (similar to a tachograph in a lorry) to track working hours, WBV exposure, and ideally boat speed. This would then be downloaded to a database at the end of each week (along with what employees were on the boat), where employee exposure can be

If this is the case it will need to be addressed by the employer in his risk assessment

This is a matter to be addressed by the employer together with any person/organisation who may have been engaged to undertake health surveillance on the employer's behalf.

Normal practice would be for any exemption requests to be routed through the nearest MCA Marine Office, supported by a case from the employer concerned which explains why despite all measures required to be taken by the regulations it is not possible to comply with the exposure limits. It is not the intention that MCA will produce an instruction document on applying for exemptions but we will consider including a section on this in the related Marine Guidance Note.

Again this is a matter to be addressed by the employer and any person/organisation who may have been engaged to undertake health surveillance on the employer's behalf.

This would be a matter for industry/employers to investigate should they consider it appropriate to do so.

Suggestion noted.

monitored. This can then be used to relate exposure to health/injury records, and identify the benefits of introducing exposure reduction measures. A display can also be provided to the coxswain/boat commander providing feedback on exposure and relating this to the limit values (e.g. at the current speed the exposure limit will be exceeded in 2 hours). Therefore the coxswain can then make an informed decision to continue at the current speed, or reduce speed to reduce WBV exposure. It is proposed that this concept could be developed under the MCA research programme as a Seafarer/Fishermen Safety Project.

Employee fitness standards: There are many industry sectors (e.g. offshore oil & gas, diving, fire fighting) that require employees to pass a fitness test. As it is recognised that back injury is related to back strength, and that back ache can be reduced by increasing fitness and strength (e.g. hospital workers), there is the potential for implementing a fitness standard for employees working on RIBs and high speed craft. Also the US Navy have trialled a specific fitness regime (to reduce their injury rate) with one of their groups of high-speed boat operators – this was not a scientific trial but the results appear to have been successful in reducing the number of injuries.

We previously undertook a study for the MOD to look at the potential for developing a High Speed Craft Human Factors design guideline. The study included a number of stakeholders from Europe, the US and Australia. The outcome was that there is a need for such a guideline to help designers and builders improve craft design (e.g. ergonomics), and particularly to assist in improving craft so that they can comply, where reasonably practicable, with the EU WBV directive (e.g. fitting shock mitigation systems/suspension systems). Would the MCA support the development of the guideline as a document to help the industry comply with the EU WBV Directive?

Further research work is required to develop a measurement standard of WBV in vehicles such as high speed craft. From work previously undertaken there appears to be very little correlation between measured exposure (i.e. RMS and VDV) and crew subjective feedback.

All seafarers on seagoing vessels require a valid medical fitness certificate, based on a two yearly occupational medical. Any additional fitness requirements or regimes are a matter for industry/employers.

Will pass on this suggestion to our Ship Safety colleagues to consider, however this may be more appropriate to industry.

Comment noted.

Additional Costs

We anticipate that there will be an additional cost to the initial risk assessment but subsequent assessments should not be so onerous. Additional costs will be incurred through the setting up and running of the health surveillance programme and WBV exposure monitoring (see notes above for our views on these). These costs could be reduced by the sharing of support and monitoring services between employers. We consider that this should be undertaken by SMEs rather than a 'general' support organisation due to the specific nature of the environment and operations.

Asked consultees to indicate any additional costs but received very little information. Both risk assessment and health surveillance are already required under the MS and FV (Health and Safety at Work) Regulations 1997, so some of the associated costs will already be covered.

Derogation

The date of 2010 should be an appropriate date for the derogation of exposure. Particularly in the light of the 'waiver' that is proposed in the consultation document

The date of 6 July 2010 provided for in regulation 7(8) of the regulations will only apply to work equipment which was provided prior to 6 July 2007 AND which despite the latest technical advances and organisational measures does not permit compliance with the exposure limit values HOWEVER in such cases the employer is required to take such measures as are provided for in the regulations to limit exposure to mechanical vibration so far as reasonably practicable.

NUMAST

General Comments

It is noted that Council Directive 89/391/EEC (the "Framework Directive") introduced general measures to encourage improvements in the safety and health of workers' at work and was implemented by the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 (as amended) (the "General Duties" Regulations). Both Directives, namely, 2002/44/EC and 2003/10/EC are "daughter" Directives that introduce specific minimum requirements relating to minimum safety and health requirements for workers' likely to be exposed to vibration and noise at work. It is noted that there is no current legislation covering the provisions of these Directives.

The comments made are accepted and will be covered in the final version of the RIA.

It is noted that regulations to implement these Directives for land-based workers' have already been introduced by the Health and Safety

Executive (HSE) and these new maritime regulations will complete United Kingdom (UK) implementation by extending the provisions of these Directives to workers' in the maritime sector. It is disappointing that it has taken such time for the Maritime and Coastguard Agency (MCA) to give effect to these Directives so as to ensure that workers' in the maritime sector receive the same protection as workers' ashore.

It is disappointing that the MCA are defensive in the arguments for introduction in stating, "There are risks to the UK Government in not implementing the Directive as failure to do so can result in infraction proceedings by the Commission for non-implementation. In addition, under the Francovic Principal the failure by the UK to implement individual rights and obligations could render the Government liable to pay compensation to all those affected by such failure.

It is respectfully pointed out that these are essential safety and health measures to protect workers' which have been accepted by other sectors of industry.

In addition to the implementation of these Directives, it is essential to ensure that the MCA have adequate resources in order to ensure an effective policing and so protect the safety and health of workers' on UK registered vessels.

Specific Comments

Draft Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2005

NUMAST would like to see no dilution of these proposed regulations, given that the MCA have stated, "...we have sought to implement them to the minimum necessary for compliance...".

Referring to Regulation 1 (a) as permitted under the Directive, it is appropriate that in relation to noise arising from the provision of music and entertainment on ships, the regulation shall not apply until 15 February 2008. It is noted that this is in line with similar regulations introduced by the HSE and is intended to allow time for the drawing up

The Regulations as drafted are intended to fully implement the Directive. No attempt has been made to dilute the requirements of the Directive but equally there has been no gold plating by the introduction of measures not contained in the Directive

Agreed. Will therefore be liaising with HSE to see whether it will be possible to produce a single Code of Conduct to cover the music and entertainment sectors both at sea and on land.

of a Code of Conduct providing for practical guidelines for the implementation of the provisions of the Directive, with regard to music and entertainment sectors. It is important however that the same guidelines, as applicable ashore, to places of entertainment are applied to merchant vessels.

Referring to Regulation 3(1) (now regulation 4(1) — While accepting the possibility of increased exposure to noise, when a vessel is engaged in search and rescue, it is totally unacceptable to exempt the activity of workers on public service vessels and where the characteristics of activity inevitably conflict with the provisions of these regulations. All workers, regardless of their employment, deserve the protection as required by the Directive; it is however noted that in the case of sea and air transport, given the current state of the art, it is not possible to comply in all circumstances with the exposure limits for noise. However, provision should therefore be made for duly justified exemptions in rare cases only. It is expected that the number of cases will be few and exceptional.

This was a misunderstanding, as the Regulations did not provide an exemption for public service vessels or vessels engaged in search and rescue. They simply allowed for disapplication to the limited extent necessary to enable public service vessels to carry out their specialist activities - e.g. police launches pursuing another vessel - or other vessels to go to the assistance of persons, vessels or aircraft in distress. In all ordinary circumstances however the Regulations apply in full, and even on rare occasions where full application is not possible for the reasons stated, the health and safety of workers still has to be ensured so far as is reasonably practicable. The same provision is contained in the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations which implemented the "Framework Directive" (Directive 89/391/EEC). Article 2.2 of that Directive provided that it should not apply where characteristics peculiar to certain specific public service activities, such as the armed forces or the police, or to certain specific activities in the civil protection services inevitably conflicted with it. In transposing this provision to the Noise and Vibrations regulations we additionally regarded customs cutters and similar vessels as being public service vessels but not, as some might interpret it, vessels providing a service to the public such as ferries and other similar vessels. In addition it should be noted that the regulations are only disapplied insofar as a specific characteristic of the activity of a public service vessel conflicts with a provision of the regulations and then only in respect of that specific provision. All other requirements are however required to be complied with. Therefore where a police or customs vessel is, for example, pursuing someone it may exceed certain requirements of the noise or vibration Directives during that pursuit. However under normal use such as when on patrol compliance with the Directive may well be possible. Regulations now amended to clarify this Referring to Regulation 6 (now regulation 7) – It is noticed that reference is made to the term "reasonably practicable". Whilst terminology is used in UK legislation, it is respectfully pointed out that the Directive requires in Article 5 (1) "...the risk arising from exposure to noise shall be eliminated at their source or reduced to a minimum". NUMAST asserts that they should be either eliminated at source or reduced to a minimum.

Referring to Regulation 7(now regulation 8) – It is important that this section be retained in its entirety and there is no dilution of the requirements with respect to hearing protection.

Referring to Regulation 12 – It is noted that reference is made to the term "reasonably practicable". NUMAST asserts that this should read in accordance with the Directive "reduced to a minimum".

Referring to Regulation 13 "Penalties" – NUMAST believes that it is not appropriate for an individual worker to be subject to penalties equal to or greater to that of an employer. In particular, attention is drawn to Regulation 13 (4) where reference is made to a fine not exceeding level 3 on the standard scale for an employer whereas, in Regulation 13 (5) a worker is subject to a fine not exceeding level 4 on the standard scale.

point

As stated re Vibration, the terminology "reasonably practicable" is widely used in UK health and safety legislation and indeed is used in both the vibration and noise regulations introduced by HSE to implement the vibration and noise Directives for land based workers.

Agreed.

As comment on regulation 6.

Here again, as with noise, having considered your comments we would not agree that simply because someone is a worker, rather than an employer, they should be subject to lower penalties. What should decide the level of a penalty is the seriousness of the matter to which that penalty relates. We would therefore agree that non compliance with regulation 8, which requires an employer to provide suitable information, instruction and training, should be upgraded to level 4 to bring it to the same level as the penalty that can be imposed upon a worker for failure to make full and proper use of clothing and equipment as well as giving effect to all instructions and training with which he has been provided. We would not agree that the employer's penalty should be greater than that of the worker in such cases as the actions of either the worker or the employer can have a serious health and safety effect not only on that worker but also on other workers as well.

So far as the other provision contained in Regulation 13(4) is concerned, this relates only to the requirement in Regulation 20 that an employer may not seek to levy a charge on any worker in respect of anything done or provided in pursuance

		of any specific requirement of these Regulations. This does not appear to be a matter related directly related to health and safety and we thus consider that a level 3 fine is appropriate. It should be remembered additionally that the penalties set down are the maximum that can be levied but the actual
	Draft Marine Guidance Note	amount of a fine in any individual case is a matter for the decision of the court.
	The content of the Draft Marine Guidance Note appears to be appropriate given parties to which the MGN is addressed.	No comment required
	Draft Regulatory Impact Assessment (RIA)	
	Referring to Section 2 – It is noted that the HSE have already implemented regulations for land-based industry and it is somewhat disappointing that the MCA failed to identify the benefits to seafarers safety and health.	The RIA will be amended to cover the benefits to seafarers' safety and health.
	Referring to Section 3 – It is disappointing that the MCA single out "The Chamber of Shipping" but make no reference to the Maritime Unions.	Reference to the Maritime Unions was omitted in error and will be rectified.
	Referring to Section 11 – It is disappointing that the MCA use the argument of avoidance of compensation by Government for compliance rather than the benefits to safety and health of workers and as the Directive states " constitutes a practical step towards creating the social dimension of the internal market".	Again this will be amended accordingly.
FURTHER	General Comments	
NUMAST COMMENTS	NUMAST accepts the comments made by the MCA.	No comment required
	Specific Comments Draft Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2005	
	Regulation 3 (1) (now regulation 4(1)) - I thank you for your	We would not consider ferries to be "public service vessels"

explanation which was understood. Further clarification is required with respect to the status of ferries that are owned or in receipt of subsidies to provide a "public service". Furthermore, clarification is required with respect to the status of vessels owned by the National Environmental Research Council and those of the Royal Fleet Auxiliary.

for the purposes of the Directive. Similarly we would consider both RFA and NERC vessels as coming fully under the Directive, except perhaps in the case of the former when operating in war conditions. Now clarified in the Regulations.

Regulation 10 (4)(a)(ii) (now regulation 12) – It is acknowledged that "and/or" is being referred to lawyers for consideration.

Now amended in Regulations

Regulation 12 "Penalties" (now regulation 13) - It is acknowledged that the MCA have upgraded the penalties to employers to Level 4 for non-compliance with Regulation 7 which requires an employer to provide suitable information, instruction and training, to bring it to the same level as the penalty that can be imposed upon a worker for failure to make full and proper use of clothing equipment as well as giving effect to all instructions and training with which he has been provided. While acknowledging that the MCA have upgraded the employer to that of the worker, this is totally unacceptable to NUMAST and from information obtained from the Trades Union Congress (TUC) this is at variance with other sectors of industry. There is a non-delegable duty placed upon an employer, to which there is a responsibility for an entire workforce which is of a different magnitude to that of an individual who fails to protect themselves. It is appreciated, although it would be in very few instances, there may be a risk to others. The penalty to the employer and that of the worker being the same is totally unacceptable to NUMAST and demonstrates that the MCA is manifestly failing to ensure adequate protection for seafarers. This is in stark contrast to the position taken by the Health and Safety Executive (HSE) with respect to the safety of the workers ashore.

Comments noted. However irrespective of the level of penalty set for each offence, such levels are the maximums that may be imposed by a court. It is for the court to decide, in the circumstances of each individual case, what the actual penalty shall be. Depending on the circumstances of individual cases therefore the penalty awarded in respect of an offence attracting a level 2 maximum could be greater than the penalty awarded in respect of an offence attracting a level 4 maximum. Have however reduced the penalty in such cases from level 4 to level 2.

MINISTRY OF DEFENCE

The wording of the MCA noise and vibration regulations should be identical to those introduced by the Health and Safety Executive (HSE), except where keeping the same wording would either not be meaningful in the context of Merchant Shipping or give rise to ambiguities. This would help us in the MOD to implement the noise and vibration policies consistently across the breadth of our activities. More importantly, it would ensure that policy formulation in government, law enactment and law enforcement are joined-up.

MCA regulations do so far as possible follow HSE regulations. We are however behind HSE in implementing these Directives and the latest guidance on drafting regulations to implement EC Directives requires that the wording used in the Directives should wherever possible be followed in the regulations. This we have done which accounts for some of the differences between the HSE and MCA regulations. Other differences will be accounted for by

For example:

Wherever possible, all terms (e.g. health surveillance) should be defined as per the noise/vibration regulations introduced by HSE.

Exemptions - There is no maximum period of 4 years in the HSE introduced regulations. (No justification appears to be given for the 4 years proposed by the MCA.)

Guidance is required on how to interpret '... increased health surveillance to a level considered appropriate...' in the Vibration Regulation 9(4)(c) and Noise Regulation 10(2)(b).

The draft regulation related to WBV makes reference to both RMS and VDV measures. However, no guidance is provided as to which measure should be used in what circumstance. This is in contrast to the HSE introduced regulations which only makes reference to the RMS measure. The RMS measure was incorporated in the regulations following the consultation process because it is easier to measure. As

the fact that HSE regulations primarily cover land based industry whereas MCA regulations on the other hand cover merchant shipping and fishing vessels as well as yachts and small vessels with paid crew. Finally it should be noted that when implementing EC Directives, HSE are able to go beyond Directive requirements in drafting their regulations whereas MCA is required to apply only the actual Directive requirements. For example the formulae included in Schedules 1 and 2 to the HSE Vibration Regulations do not come from the Directive and are therefore not included in the MCA Regulations.

In drafting regulations MCA and its lawyers decide which terms require definition in the maritime context and have generally based those definitions on the requirements set out in the Directives.

All exemptions issued by MCA are time limited. In addition, whilst the HSE regulations do not include a maximum period of 4 years, Article 11.2 of the Noise Directive does require derogations to be reviewed at 4 yearly intervals and withdrawn as soon as the justifying circumstances no longer obtain. Similar provisions are contained in Article10.3 of the Vibration Directive. The 4 year limit in MCA's draft Noise and Vibration Regulations is therefore fully in accordance with the Directives. Incidentally the HSE Regulations do provide that exemptions may be time limited.

The level to which health surveillance should be increased will be specified in any exemption issued by MCA.

RMS now indicated in Regulations as relevant form of measurement.

drafted the regulations will place the decision on which measure to use on every single employer. Is this sensible? If both measures are to be proposed a clearer steer is required to enable employers to make an informed decision as to which measure (ie VDV or RMS) is appropriate for particular activities/tasks.

The draft regulations refer to 'contracts of employment', 'employers' and 'workers'. However, it is unclear whether those persons who are not in a traditional employee/employer relationship (eg casual workers, agency staff) will be covered by the provisions of the Directive, assuming this is the intention.

Understand that because the regulations only refer to the 'Secretary of State', in law, exemptions could be granted by any Secretary of State (including the Secretary of State for Defence). That said we would like to see, as a matter of policy for defence related matters, the Secretary of State for Defence mentioned explicitly in the regulations as having the authority to grant exemptions. This would be consistent with the noise and vibration regulations introduced by the HSE, and we would follow the same process for seeking exemptions on defence matters as we would when seeking exemptions under the regulations introduced by the HSE. The process, for each exemption, would be as follows. An exemption case would be compiled each time an exemption was thought necessary. It would be independently scrutinised by suitably qualified personnel in the MOD before being forwarded to Secretary of State for Defence for his consideration. Where a certificate is signed an information copy would be sent to the MCA.

There are a number of typographical/editorial errors. Assume these will be corrected in the final version.

The Directives state that they introduce minimum health and safety requirements regarding the exposure of workers to physical agents - noise and vibration. The drafting of the regulations is intended to apply the provisions of the Directives to all workers and it is our understanding that "casual workers" and "agency staff" are workers as they will be employed by someone under some form of contract. The only possible exception from the provision of these regulations would be self employed persons.

Exemption for MOD SoS not required following meeting with MOD. Instead covered by provision exempting persons engaged in matters relating to national security.

Noted and have rectified.