

## APPENDIX 2

### MODEL FORMAT FOR TABLE OF SHIPBOARD WORKING ARRANGEMENTS<sup>19</sup>

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<sup>19</sup> **International Maritime Organization (IMO) & International Labour Office (ILO) (1999)- *IMO/ILO Guidelines for the Development of Tables of Seafarers' Shipboard Working Arrangements and Formats of Records of Seafarers' Hours of Work or Hours of Rest.*** IMO – London, United Kingdom



Model format for table of shipboard working arrangements<sup>20</sup>

Name of ship: \_\_\_\_\_ Flag of ship: \_\_\_\_\_ IMO number (if any): \_\_\_\_\_ Latest update of table: \_\_\_\_\_ ( ) of ( ) pages

The maximum hours of work or minimum hours of rest are applicable in accordance with : \_\_\_\_\_ (national law or regulation) issued in conformity with ILO's Seafarers' Hours of Work and the Manning of Ships Convention 1996 (No. 180) and with any applicable collective agreement registered or authorized in accordance with that Convention and with the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended, (STCW Convention).<sup>21</sup>

Maximum hours of work or minimum hours of rest<sup>22</sup>: \_\_\_\_\_

Other requirements: \_\_\_\_\_

Position/Rank <sup>23</sup>	Scheduled daily work hours at sea		Scheduled daily work hours in port		Comments	Total daily work/rest <sup>3</sup> hours	
	Watchkeeping (from - to)	Non-watchkeeping duties (from - to) <sup>24</sup>	Watchkeeping (from - to)	Non-watchkeeping duties (from - to) <sup>5</sup>		At sea	In port

Signature of Master \_\_\_\_\_

20

The terms used in this model table are to appear in the working language or languages of the ship and in English.

21

See overleaf for selected extracts from ILO Convention 180 and the STCW Convention.

22

Delete as applicable.

23

For those positions/ranks that are also listed in the ship's safe manning document, the terminology used should be the same as in that document.

24

For watchkeeping personnel, the comments section may be used to indicate the anticipated number of hours to be devoted to unscheduled work and any such hours should be included in the appropriate total daily work hours column.

## **Selected texts from ILO Convention 180 and the STCW Convention**

### **ILO Convention 180**

- Art.5 paragraph 1. The limits on hours of work or rest shall be as follows: (a) maximum hours of work shall not exceed: (i) 14 hours in any 24-hour period; and (ii) 72 hours in any seven-day period; or (b) minimum hours of rest shall not be less than: (i) ten hours in any 24-hour period; and (ii) 77 hours in any seven-day period.
- Art. 5 paragraph 2. Hours of rest may be divided into no more than two periods, one of which shall be at least six hours in length, and the interval between consecutive periods of rest shall not exceed 14 hours.
- Art. 5 paragraph 6. Nothing in paragraphs 1 and 2 shall prevent the Member from having national laws or regulations or a procedure for the competent authority to authorize or register collective agreements permitting exceptions to the limits set out. Such exceptions shall, as far as possible, follow the standards set out but may take account of more frequent or longer leave periods or the granting of compensatory leave for watchkeeping seafarers or seafarers working on board ships on short voyages.
- Art. 7 paragraph 1. Nothing in this Convention shall be deemed to impair the right of the master of a ship to require a seafarer to perform any hours of work necessary for the immediate safety of the ship, persons on board or cargo, or for the purpose of giving assistance to other ships or persons in distress at sea.
- Art.7 paragraph 3. As soon as practicable after the normal situation has been restored, the master shall ensure that any seafarers who have performed work in a scheduled rest period are provided with an adequate period of rest.

### **STCW Convention**

Section A-VIII/1 of the STCW Code (Mandatory)

1. All persons who are assigned duty as officer in charge of a watch or as a rating forming part of a watch shall be provided a minimum of 10 hours rest in any 24-hour period.
2. The hours of rest may be divided into no more than two periods, one of which shall be at least 6 hours in length.
3. The requirements for rest periods laid down in paragraph 1 and 2 need not be maintained in the case of an emergency or drill or in other overriding operational conditions.
4. Notwithstanding the provisions of paragraphs 1 and 2, the minimum period of ten hours may be reduced to not less than 6 consecutive hours provided that any such reduction shall not extend beyond two days and not less than 70 hours of rest are provided each seven day period.

5. Administrations shall require that watch schedules be posted where they are easily accessible.

Section B-VIII/1 of the STCW Code (Guidance)

3. In applying regulation VIII/1, the following should be taken into account:

- .1 provisions made to prevent fatigue should ensure that excessive or unreasonable overall working hours are not undertaken. In particular, the minimum rest periods specified in Section A-VIII/1 should not be interpreted as implying that all other hours may be devoted to watchkeeping or other duties;
- .2 that the frequency and length of leave periods, and the granting of compensatory leave, are material factors in preventing fatigue from building up over a period of time;
- .3 the provisions may be varied for ships on short-sea voyages, provided special safety arrangements are put in place.

APPENDIX 3

**MODEL FORMAT FOR RECORDS OF HOURS OF WORK**  
**OR HOURS OF REST OF SEAFARERS**<sup>25</sup>

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<sup>25</sup> **International Maritime Organization (IMO) & International Labour Office (ILO) (1999)-** *IMO/ILO Guidelines for the Development of Tables of Seafarers' Shipboard Working Arrangements and Formats of Records of Seafarers' Hours of Work or Hours of Rest.* IMO – London, United Kingdom



## Model format for record of hours of work or hours of rest of seafarers<sup>1</sup>

Name of ship: \_\_\_\_\_ IMO number (if any): \_\_\_\_\_ Flag of ship: \_\_\_\_\_  
Seafarer (full name): \_\_\_\_\_ Position / rank: \_\_\_\_\_  
Month and year: \_\_\_\_\_ Watchkeeper:<sup>2</sup> yes  no

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### Record of hours of work/rest<sup>3</sup>

Please mark periods of work or rest, as applicable, with an X, or using a continuous line or arrow.

**COMPLETE THE TABLE ON THE REVERSE SIDE**

The following national laws, regulations and/or collective agreements governing limitations on working hours or minimum rest periods apply to this ship:

\_\_\_\_\_

*I agree that this record is an accurate reflection of the hours of work or rest of the seafarer concerned.*

Name of master or person authorized by master to sign this record \_\_\_\_\_

Signature of master or authorized person \_\_\_\_\_ Signature of seafarer \_\_\_\_\_

A copy of this record is to be given to the seafarer. This form is subject to examination and endorsement under procedures established by \_\_\_\_\_  
\_\_\_\_\_ (name of competent authority)

<sup>1</sup> The terms used in this model table are to appear in the working language or languages of the ship and in English.

<sup>2</sup> Check / as appropriate.

<sup>3</sup> Delete as appropriate.



## APPENDIX 4

### SEAFARERS' HOURS OF WORK AND THE MANNING OF SHIPS CONVENTION, 1996 (NO. 180)

#### PART I. SCOPE AND DEFINITIONS

##### Article 1

1. This Convention applies to every seagoing ship, whether publicly or privately owned, which is registered in the territory of any Member for which the Convention is in force and is ordinarily engaged in commercial maritime operations. For the purpose of this Convention, a ship that is on the register of two Members is deemed to be registered in the territory of the Member whose flag it flies.
2. To the extent it deems practicable, after consulting the representative organizations of fishing-vessel owners and fishermen, the competent authority shall apply the provisions of this Convention to commercial maritime fishing.
3. In the event of doubt as to whether or not any ships are to be regarded as seagoing ships or engaged in commercial maritime operations or commercial maritime fishing for the purpose of the Convention, the question shall be determined by the competent authority after consulting the organizations of shipowners, seafarers and fishermen concerned.
4. This Convention does not apply to wooden vessels of traditional build such as dhows and junks.

##### Article 2

For the purpose of this Convention:

- (a) the term “competent authority” means the minister, government department or other authority having power to issue regulations, orders or other instructions having the force of law in respect of seafarers' hours of work or rest or the manning of ships;
- (b) the term “hours of work” means time during which a seafarer is required to do work on account of the ship;
- (c) the term “hours of rest” means time outside hours of work; this term does not include short breaks;
- (d) the term “seafarer” means any person defined as such by national laws or regulations or collective agreements who is employed or engaged in any capacity on board a seagoing ship to which this Convention applies;
- (e) the term “shipowner” means the owner of the ship or any other organization or person, such as the manager or bareboat charterer, who has assumed the responsibility for the operation of the ship from the shipowner and who on assuming such responsibility has agreed to take over all the attendant duties and responsibilities.



## **PART II. SEAFARERS' HOURS OF WORK AND HOURS OF REST**

### **Article 3**

Within the limits set out in Article 5, there shall be fixed either a maximum number of hours of work which shall not be exceeded in a given period of time, or a minimum number of hours of rest which shall be provided in a given period of time.

### **Article 4**

A Member which ratifies this Convention acknowledges that the normal working hours' standard for seafarers, like that for other workers, shall be based on an eight-hour day with one day of rest per week and rest on public holidays. However, this shall not prevent the Member from having procedures to authorize or register a collective agreement which determines seafarers' normal working hours on a basis no less favourable than this standard.

### **Article 5**

1. The limits on hours of work or rest shall be as follows:
  - (a) maximum hours of work shall not exceed:
    - (i) 14 hours in any 24-hour period; and
    - (ii) 72 hours in any seven-day period;or
  - (b) minimum hours of rest shall not be less than:
    - (i) ten hours in any 24-hour period; and
    - (ii) 77 hours in any seven-day period.
2. Hours of rest may be divided into no more than two periods, one of which shall be at least six hours in length, and the interval between consecutive periods of rest shall not exceed 14 hours.
3. Musters, fire-fighting and lifeboat drills, and drills prescribed by national laws and regulations and by international instruments shall be conducted in a manner that minimizes the disturbance of rest periods and does not induce fatigue.
4. In respect of situations when a seafarer is on call, such as when a machinery space is unattended, the seafarer shall have an adequate compensatory rest period if the normal period of rest is disturbed by call-outs to work.
5. If no collective agreement or arbitration award exists or if the competent authority determines that the provisions in the agreement or award in respect of paragraph 3 or 4 are inadequate, the competent authority shall determine such provisions to ensure the seafarers concerned have sufficient rest.

6. Nothing in paragraphs 1 and 2 shall prevent the Member from having national laws or regulations or a procedure for the competent authority to authorize or register collective agreements permitting exceptions to the limits set out. Such exceptions shall, as far as possible, follow the standards set out but may take account of more frequent or longer leave periods or the granting of compensatory leave for watchkeeping seafarers or seafarers working on board ships on short voyages.

7. The Member shall require the posting, in an easily accessible place, of a table with the shipboard working arrangements, which shall contain for every position at least:

- (a) the schedule of service at sea and service in port; and
- (b) the maximum hours of work or the minimum hours of rest required by the laws, regulations or collective agreements in force in the flag State.

8. The table referred to in paragraph 7 shall be established in a standardized format in the working language or languages of the ship and in English.

#### **Article 6**

No seafarer under 18 years of age shall work at night. For the purpose of this Article, "night" means a period of at least nine consecutive hours, including the interval from midnight to five a.m. This provision need not be applied when the effective training of young seafarers between the ages of 16 and 18 in accordance with established programmes and schedules would be impaired.

#### **Article 7**

1. Nothing in this Convention shall be deemed to impair the right of the master of a ship to require a seafarer to perform any hours of work necessary for the immediate safety of the ship, persons on board or cargo, or for the purpose of giving assistance to other ships or persons in distress at sea.

2. In accordance with paragraph 1, the master may suspend the schedule of hours of work or hours of rest and require a seafarer to perform any hours of work necessary until the normal situation has been restored.

3. As soon as practicable after the normal situation has been restored, the master shall ensure that any seafarers who have performed work in a scheduled rest period are provided with an adequate period of rest.

#### **Article 8**

1. The Member shall require that records of seafarers' daily hours of work or of their daily hours of rest be maintained to allow monitoring of compliance with the provisions set out in Article 5. The seafarer shall receive a copy of the records pertaining to him or her which shall be endorsed by the master, or a person authorized by the master, and by the seafarer.

2. The competent authority shall determine the procedures for keeping such records on board, including the intervals at which the information shall be recorded. The competent authority shall establish the format of the records of the seafarers' hours of work or of their hours of rest taking into

account any available International Labour Organization guidelines or shall use any standard format prepared by the Organization. The format shall be established in the language or languages provided by Article 5, paragraph 8.

3. A copy of the relevant provisions of the national legislation pertaining to this Convention and the relevant collective agreements shall be kept on board and be easily accessible to the crew.

#### **Article 9**

The competent authority shall examine and endorse the records referred to in Article 8, at appropriate intervals, to monitor compliance with the provisions governing hours of work or hours of rest that give effect to this Convention.

#### **Article 10**

If the records or other evidence indicate infringement of provisions governing hours of work or hours of rest, the competent authority shall require that measures, including if necessary the revision of the manning of the ship, are taken so as to avoid future infringements.

### **PART III. MANNING OF SHIPS**

#### **Article 11**

1. Every ship to which this Convention applies shall be sufficiently, safely and efficiently manned, in accordance with the minimum safe manning document or an equivalent issued by the competent authority.

2. When determining, approving or revising manning levels, the competent authority shall take into account:

- (a) the need to avoid or minimize, as far as practicable, excessive hours of work, to ensure sufficient rest and to limit fatigue; and
- (b) the international instruments identified in the Preamble.

#### **Article 12**

No person under 16 years of age shall work on a ship.

### **PART IV. RESPONSIBILITIES OF SHIPOWNERS AND MASTERS**

#### **Article 13**

The shipowner shall ensure that the master is provided with the necessary resources for the purpose of compliance with obligations under this Convention, including those relating to the appropriate manning of the ship. The master shall take all necessary steps to ensure that the requirements on seafarers' hours of work and rest arising from this Convention are complied with.

## **PART V. APPLICATION**

### **Article 14**

A Member which ratifies this Convention shall be responsible for the application of its provisions by means of laws or regulations, except where effect is given by collective agreements, arbitration awards or court decisions.

### **Article 15**

The Member shall:

- (a) take all necessary measures, including the provision of appropriate sanctions and corrective measures, to ensure the effective enforcement of the provisions of this Convention;
- (b) have appropriate inspection services to supervise the application of the measures taken in pursuance of this Convention and provide them with the necessary resources for this purpose; and
- (c) after consulting shipowners' and seafarers' organizations, have procedures to investigate complaints relating to any matter contained in this Convention.

## APPENDIX 5

### RELEVANT REQUIREMENTS OF THE INTERNATIONAL SAFETY MANAGEMENT CODE (ISM CODE)

#### 6. Resources and Personnel

- 6.1 The Company should ensure that the master is:
1. properly qualified for command;
  2. fully conversant with the Company's SMS; and
  3. given the necessary support so that the master's duties can be safely performed.
- 6.2 The Company should ensure that each ship is manned with qualified, certificated and medically fit seafarers in accordance with national and international requirements.
- 6.3 The Company should establish procedures to ensure that new personnel and personnel transferred to new assignments related to safety and protection of the environment are given proper familiarisation with their duties. Instructions which are essential to be provided prior to sailing should be identified, documented and given.
- 6.4 The Company should ensure that all personnel involved in the Company's SMS have an adequate understanding of relevant rules, regulations, codes and guidelines.
- 6.5 The Company should establish and maintain procedures for identifying any training which may be required in support of the SMS and ensure that such training is provided for all personnel concerned.
- 6.6 The Company should establish procedures by which the ship's personnel receive relevant information on the SMS in a working language or languages understood by them.
- 6.7 The Company should ensure that the ship's personnel are able to communicate effectively in the execution of their duties related to the SMS.

## APPENDIX 6

### RELEVANT REQUIREMENTS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995, AND ITS CODE

#### Regulation VIII/1 Fitness for duty

Each Administration shall, for the purpose of preventing fatigue:

1. establish and enforce rest periods for watchkeeping personnel; and
2. require that watch systems are so arranged that the efficiency of all watchkeeping personnel is not impaired by fatigue and that duties are so organized that the first watch at the commencement of a voyage and subsequent relieving watches are sufficiently rested and otherwise fit for duty.

#### Section A-VIII/1 Fitness for duty

1. All persons who are assigned duty as officer in charge of a watch or as a rating forming part of a watch shall be provided a minimum of 10 hours rest in any 24-hour period.
2. The hours of rest may be divided into no more than two periods, one of which shall be at least 6 hours in length.
3. The requirements for rest periods laid down in paragraph 1 and 2 need not be maintained in the case of an emergency or drill or in other overriding operational conditions.
4. Notwithstanding the provisions of paragraphs 1 and 2, the minimum period of ten hours may be reduced to not less than 6 consecutive hours provided that any such reduction shall not extend beyond two days and not less than 70 hours of rest are provided each seven day period.
5. Administrations shall require that watch schedules be posted where they are easily accessible.

## **Section B-VIII/1**

### **Guidance regarding fitness for duty**

#### **Prevention of fatigue**

- 1 In observing the rest period requirements, "overriding operational conditions" should be construed to mean only essential shipboard work which cannot be delayed for safety or environmental reasons or which could not reasonably have been anticipated at the commencement of the voyage.
- 2 Although there is no universally accepted technical definition of fatigue, everyone involved in ship operations should be alert to the factors which can contribute to fatigue, including, but not limited to those identified by the Organization,<sup>26</sup> and take them into account when making decisions on ship operations.
- 3 In applying regulation VIII/1, the following should be taken into account:
  - .1 provisions made to prevent fatigue should ensure that excessive or unreasonable overall working hours are not undertaken. In particular, the minimum rest periods specified in Section A-VIII/1 should not be interpreted as implying that all other hours may be devoted to watchkeeping or other duties;
  - .2 that the frequency and length of leave periods, and the granting of compensatory leave, are material factors in preventing fatigue from building up over a period of time;
  - .3 the provisions may be varied for ships on short-sea voyages, provided special safety arrangements are put in place; and
- 4 Administrations should consider the introduction of a requirement that records of hours of work or rest of seafarers should be maintained and that such records are inspected by the Administration at appropriate intervals to ensure compliance with regulations concerning working hours or rest periods.
- 5 Based on information received as a result of investigating maritime casualties, Administrations should keep their provisions on prevention of fatigue under review.

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<sup>26</sup>See IMO resolution A.722(18), paragraphs 2 to 4.4.1.

## **APPENDIX 7**

### **RESOLUTION A.772(18) adopted on 4 November 1993**

#### **ANNEX**

### **FATIGUE FACTORS IN MANNING AND SAFETY**

#### **1 INTRODUCTION**

**1.1** The purpose of this document is to provide a general description of fatigue, to identify the factors of ship operations which may contribute to fatigue, and to classify those factors under broad categories to indicate the extent to which the factors may be related.

**1.2** The objective is to increase awareness of the complexity of fatigue and to encourage all parties involved in ship operations to take these factors into account when making operational decisions.

#### **2 GENERAL DESCRIPTION OF FATIGUE**

**2.1** Fatigue results in the degradation of human performance, the slowing down of physical and mental reflexes and/or the impairment of the ability to make rational judgements.

**2.2** Fatigue may be induced by factors such as prolonged periods of mental or physical activity, inadequate rest, adverse environmental factors, physiological factors and/or stress or other psychological factors.

#### **3 CLASSIFICATION OF FATIGUE FACTORS IN RELATED GROUPS**

**3.1** In the case of seafarers, among the most commonly recognized and documented causes of fatigue are poor quality of rest, excessive workload, noise and interpersonal relationships. The contributory factors that lead to the above are many and varied. The significance of these factors as contributory causes of fatigue will vary depending on operational circumstances. Some factors will be more manageable than others. Such factors can be grouped as follows:

##### **3.1.1** Management ashore and aboard ship, and responsibilities of Administrations:

- scheduling of work and rest periods;
- manning levels;
- assignment of duties;
- shore-ship-shore support and communication;
- standardization of work procedures;
- voyage planning;
- watchkeeping practices;
- management policy;
- in-port operations;
- recreational facilities;
- administrative duties.



**3.1.2 Ship-specific factors:**

- level of automation;
- reliability of equipment;
- motion characteristics;
- vibration, heat and noise levels;
- quality of working and living environment;
- cargo characteristics/requirements;
- ship design.

**3.1.3 Crew-specific factors:**

- thoroughness of training;
- experience;
- crew composition - cohesiveness;
- crew competency and quality.

**3.1.4 External environmental factors:**

- weather;
- port conditions;
- ice conditions;
- density of vessel traffic.

## **4 GENERAL DISCUSSION**

### **4.1 Management ashore, aboard ship, and also the responsibilities of Administrations**

**4.1.1** The prevention of fatigue in the areas of scheduling of shipboard work and rest periods, manning levels, watchkeeping practices and assignment of duties could largely be accomplished by sensible shore-based management and on-board management techniques. It is also recognized that Administrations have an equally important role to play with respect to legislation leading to acceptance, implementation and enforcement in those areas covered by international conventions. Guidelines and provisions should take into account the relationships between work and rest periods to ensure adequate rest. These considerations should include a review of the voyage length, length of port stay, length of service of individual crew members, periods of responsibility and watchkeeping practices.

**4.1.2** It is essential that management should provide clear, concise written policy guidance to ensure that ships' crews are familiar with ships' operational procedures, cargo characteristics, voyage length, destination, internal and external communication practices and ship familiarization procedures.

**4.1.3** Management should recognize that crews joining a ship need to be adequately rested before assuming on-board duties.

## **4.2 Ship-specific factors**

**4.2.1** In designing or modifying ships, existing requirements, recommendations, standards and publications pertaining to the listed factors should be taken into account. Additionally, allowance should be made in designing ships for the adoption of ergonomic practices to prevent fatigue from these factors.

## **4.3 Crew-specific factors**

**4.3.1** Thoroughness of training is considered to be important in the prevention of fatigue. Fitness for duty, including medical fitness, proper working experience and the qualifications and quality of crew members are also considered important in this context.

**4.3.2** It is important that management recognizes the potential problems stemming from the employment of multinational crews on the same vessel, a practice that might result in language barriers and in social, cultural and religious isolation, all of which may lead to safety problems.

**4.3.3** Special emphasis should be placed by management on issues of interpersonal relationships, loneliness, social deprivation and increased workloads which may occur as a result of small crew complements.

**4.3.4** Boredom can contribute to fatigue, and it is therefore necessary to provide seafarers with appropriate stimulation.

## **4.4 External environmental factors**

**4.4.1** In respect of the listed external environmental factors, it should also be recognized that they could contribute to fatigue.

## APPENDIX 8

### PERTINENT IMO INSTRUMENTS RELATING TO FATIGUE

The following IMO instruments were reviewed with regard to their applicability to crew fatigue:

#### CONVENTIONS and CODES

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 1995 (STCW Convention)

Seafarers' Training, Certification and Watchkeeping Code (STCW Code)

International Code of Safety for High Speed Craft (HSC Code)

The International Safety Management (ISM) Code

#### ASSEMBLY RESOLUTIONS

**A.481(XII)<sup>27</sup>** [Principles of Safe Manning](#)

**A.772(18)** Fatigue Factors in Manning and Safety

**A.792(19)** Safety Culture In and Around Passenger Ships

**A.850(20)** Human Element Vision, Principles and Goals for the Organization

#### MARITIME SAFETY COMMITTEE (MSC) CIRCULARS

**MSC/Circ.493** Recommendation Related to the Fatigue Factor in Manning and Safety

**MSC/Circ.565** Fatigue as a Contributory Factor in Maritime Accidents

**MSC/Circ.566** Provisional Guidelines for Conducting Trials in which the Officer Of The Navigational Watch Acts as the Sole Look-Out in Periods of Darkness

**MSC/Circ.621** Guidelines for the investigation of accidents where fatigue may have been a contributory factor.

**MSC/Circ.675** Recommendations on the Safe Transport of Dangerous Cargoes and Related Activities in Port Areas

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<sup>27</sup> Amendments pending adoption by the Assembly at its 21st session.

<b>MSC/Circ.747</b>	Ship/Port Interface
<b>MSC/Circ.813</b> <b>MEPC/Circ.330</b>	List of human element common terms
<b>MSC/Circ.834</b>	Guidelines for Engine-Room Layout, Design and Arrangement
<b>MSC/Circ.982</b>	Guidelines on Ergonomic Criteria for Bridge Equipment and Layout

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