INFORMATION BULLETIN No. 115

SAFE MANNING REQUIREMENTS

Guidance and Instructions for Bahamas Recognised Organisations, Bahamas Approved Nautical Inspectors, Ship Owners, Managers and Masters

1. Purpose

1.1 The Bahamas Merchant Shipping Act 1976 Section 67, Regulation V/14.1 of the International Convention for the Safety of Life at Sea 1974, as amended, (SOLAS) and Regulation 2.7 of Maritime Labour Convention 2006 (MLC 2006) requires every ship to be manned sufficiently and efficiently. SOLAS Regulation V/14.2 and Merchant Shipping (training, Certification and Manning) Regulations 2012 requires every ship to which the regulations applies be provided with a Minimum Safe Manning Document (SMD).

1.2 This Bulletin outlines the Bahamas requirements and guidelines in relation to the minimum manning levels on Bahamian ships.

1.3 This Bulletin shall be read in conjunction with BMA Information Bulletin no. 70, *81, 86, 103, 104, 105, 106, 108, 118, 121, 122, 127, 129, 130, 133, 135, 137, 138, 139, 140, 142, 144, 145, 146, 147, 148 and* IMO Resolutions *A. 891 (21*), A. *893(21), A. 999 (25) and A. 1047 (27).*

1.4 The IMO Maritime Safety Committee (MSC) has completed a comprehensive review of the safe manning principles. This review and the implementation of MLC 2006 and 2010 amendments to the International Convention on Standards of Training, Certification and Watch-keeping for Seafarers 1978(STCW) will have a major impact on safe manning of vessels and the training and certification of seafarers.

2 Application

2.1 The Bahamas Maritime Authority (BMA) applies these requirements to:

- all ships engaged in international voyages;
- other ships of 500 gt and over;
- offshore units whether mobile or stationary;
- all yachts of 24 metres in length and over

2.2 All ships over 500 gross tonnage must have onboard a valid SMD and all other ships units may apply for a SMD on a voluntary basis

3. Responsibilities of the Company[1] and master

3.1 In accordance with Regulation I/14 of the STCW Convention, the Company is responsible for ensuring that the ship is manned in compliance with the SMD by properly qualified, certificated and medically fit seafarers**.** Similar requirements are also laid down in paragraph 6 of the International Safety Management (ISM) Code. In line with these requirements, the BMA requires the Company to apply for a SMD proposing the appropriate level of manning that they consider the vessel will require taking into consideration the international guidelines.

3.2 The Company must verify the validity and authenticity of all seafarers' sea service, certificates and documents before applying for Bahamas certification. This responsibility remains irrespective of the Company using a recruitment and placement service (RPS), manning or crewing agents to submit seafarers' documents. Companies utilising RPS shall ensure that RPS has authorization issued by the Government of the country in which they are located, verifying compliance with the requirements of MLC 2006 Standard A1.4. If the RPS is located in a country that has not ratified the MLC 2006 or the RPS does not have a valid MLC 2006 compliant document, the Company should assess the RPS taking into consideration the MLC 2006 requirements, guidelines and BMA Information Bulletin 147.

[1] Company is the entity responsible for the management of the ship in accordance with the ISM Code. For ships that are not required to comply with the ISM, Company is the entity as defined in STCW Convention Regulation I/1.23)

3.3 The Company and the master shall ensure that all persons joining a ship or unit are immediately given appropriate familiarization training with respect to the ship for emergency, safety and if applicable security in addition to their respective duties and functions.

3.4 The Company and the master of a vessel shall ensure that watch standards and arrangements as outlined in STCW Convention Chapter VIII are maintained at all times.

3.5.1 The Company and the master shall meet the relevant requirements of MLC 2006 and STCW Convention Chapter VIII with respect to periods of rest and prevention of alcohol abuse for any person assigned or performing designated safety, prevention of pollution and security duties

3.5.2 The watch schedules and records of daily hours of rest for all seafarers shall be posted or maintained to be easily accessible and capable of being verified. Any exceptions or suspension of the periods of rest shall be recorded in the Official Log Book.

3.5.3 The Company and master shall be guided by BMA Information Bulletin no. 144 in relation to hours of rest. For the prevention of alcohol abuse, the BMA has established a limit of not greater than 0.05 % blood alcohol level (BAC) or 0.25 mg/l alcohol in the breath or a quantity of alcohol leading to such alcohol concentration.

4. Employing Officers and Ratings with alternative certification

4.1 A Company may find it prudent to have officers or ratings certificated under the STCW Convention Chapter VII as this would enable flexibility for the Company to employ the affected officers or ratings on ships depending on the manning requirement for officers. However, an officer may only be employed in one identified capacity onboard at any one time. It must be borne in mind that employment of such officers on a ship must not reduce the number of crew or lower the integrity of the profession nor should the legal position and authority of the master be adversely affected.

4.2 Under no circumstances may a single officer be assigned the combined duties of the engine and navigation watch-keeping officer.

5. Clarification of certain capacities

5.1 Trainee

- The terms Cadet, Apprentice, Assistant Engineer or Trainee Rating will include persons undergoing training but not yet qualified for a capacity identified in the SMD.
- None of the above will be included in the SMD as a requirement, but the company, as per their internal policy may carry them.

All of the above persons must complete Basic Training (four elements of the STCW Code A-VI/1) prior to joining a ship.

5.2 Ship's Cook

5.2.1 In all cases where the total manning consists of more than 10 persons, there shall be a dedicated certified cook. If the SMD does not show a requirement of more than 10 persons then the company should have one person designated for as the Cook. If the person so appointed does not have a ship's cook certificate then the company shall ensure that he/she has the necessary skills, experience and training or instruction in food hygiene, personal hygiene, and handling and storage of food onboard ship.

5.2.2 Additional guidance relating to the ship cook is outlined in BMA Information Bulletin 146.

5.3 Doctor or person providing medical care

5.3.1 The ship shall carry a qualified medical doctor when there are 100 or more persons onboard. Where the ship is engaged on voyages during which the ship is no more than 36 hours steaming distance

from a port with qualified medical care and medical facilities, the vessel may apply for an exemption.

5.3.2 Offshore units with 100 or more persons may be exempted from the requirement of a doctor if it is linked by a helicopter service that has access to a qualified medical care and medical facilities. An application for exemption should be submitted to the BMA.

5.3.3.1 Where there is no doctor on board, there shall be at least one person, who maybe the master, designated to provide medical care. The master should seek additional medical assistance when so required

5.3.3.2 The designated person shall always available to provide medical care to seafarers in compliance with onboard safety management system (SMS).

5.3.3.3 The designated person should be trained in medical care in accordance with the STCW Regulation VI/4.

5.3.4 The Doctor or person designated to provide medical care shall undergo refresher training at period not exceeding 5 years and shall be capable of communicating in the English language.

5.3.5 Additional guidance on the provision of medical care onboard is outlined in BMA Information Bulletin 148.

5.4 Ship Security Officer (SSO)

5.4.1 All persons, onboard ships to which the International Code for the Security of Ships and Port Facilities (ISPS Code) applies, shall have received security training in accordance with STCW Convention Regulation VI/6. One appropriately trained person shall be designated as the Ship Security Officer (SSO) as required under the (ISPS Code).

5.4.2 The SSO maybe the master or any other person designated by the Company. The officer so designated shall meet the training requirement in accordance with the provisions of STCW Regulation VI/5 and shall be directly responsible to the master (if the SSO is not the master) and the Company Security Officer (CSO) in compliance with ship's SMS**.**

5.4.3 The Company shall ensure that one of the capacities proposed to be included on the SMD is also able to carry out the duties of the SSO.

5.4.4 Additional guidance pertaining to SSO is provided in BMA Information Bulletin no. 118.

5.5 Persons assigned electronic and electrical duties

5.5.1 The ship may carry persons who are specifically assigned the specific duties, tasks and responsibilities relating to electrical and electronic tasks. If required to be carried, these persons should be certified as Electro-Technical Officers or Electro-Technical Ratings and satisfy the requirements of STCW Regulations III/6 or III/7 respectively.

5.5.2 The SMD need only include these persons if they are additional to the Engineering Officers and they have been assigned shipboard duties to satisfy the requirements of the maintenance of a safe engineering watch, emergency as specified in the Muster List or operation and maintenance of the ship's electrical, electronic and control systems.

5.6 Person designated for safety

All ships shall have a person, who may be the Master, who has responsibility for implementation of and compliance with the ship's occupational safety and health policy and programme.

6 Manning during hours of darkness and restricted visibility

Companies shall ensure that the ships have sufficient trained navigational watch-keeping personnel to ensure that the navigation control room/bridge is manned by at least 2 watch-keeper during hours of darkness and conditions of restricted visibility. One of these watch keepers shall be a Navigational Officer.

7. Manning onboard specific ship

7.1 Vessels with propulsion power of less than 750 kW

Ships with propulsion power of less than 750 kW will not be required to have an engineer certificated in accordance with STCW. However, such ships must have at least one person, other than the master, who is trained and certified to operate the machinery onboard the vessel. If the training is not in accordance with STCW then the person should have documentary evidence of his training and capability to perform the assigned tasks.

7.2 Vessels with unattended machinery space (UMS)

7.2.1 The UMS notation assigned by Classification Society (Class) shall be taken into account when determining whether the machinery space can be unattended.

7.2.2 If the manning of a vessel with propulsion power of more than 3000kW is based on UMS notation then the ship shall carry an additional watch-keeping engineer officer if the UMS systems are inoperative for more than seven days. The Company shall notify affected Class and the BMA of the related equipment failure affecting the UMS notation.

7.3 Passenger Ships, including RORO Passenger ships

7.3.1 A Company operating a passenger ship may employ additional hotel staff and other non-marine crew such as shop-keepers, barbers, laundrymen etc. All such persons must be given STCW familiarization training and if they are assigned either safety, security or environmental protection duties, then the persons should have the basic STCW training.

7.3.2 The SMD should include all persons who are required to be assigned shipboard duties in order to satisfy the requirements of the Emergency Muster List for guidance of passengers to assembly points, muster stations and survival crafts and any other associated emergency duties. Such persons should be trained in accordance with the relevant requirements of STCW Regulation V/2. The vessel should consider the number of such persons taking into consideration the number of passengers.

7.3.3 The SMD should include all persons who are required to be assigned either security or environmental protection shipboard duties. Such persons should be trained in accordance with the relevant requirements of STCW Regulation V/2.

7.3.4 One designated person holding a STCW Regulation IV/2 (GMDSS Certificate of Competency) shall remain in charge of communication duties for the entire duration of an emergency until the master gives the order for evacuation of the ship.

7.3.5 All survival craft must be manned by duly qualified persons in accordance with STCW and as required under SOLAS 1974, as amended.

7.4 Offshore Units

7.4.1 A Company operating an offshore unit may employ additional persons, who must be given familiarization and basic training as applicable.

7.4.2 All persons should be trained in accordance with either the STCW or alternatively the provisions of IMO Resolution A. 891 (21). The Company should take into consideration the Bahamas guidance as outlined in BMA Information Bulletin no. 105.

7.4.3 The SMD should include all persons who are required to be assigned watch-keeping, safety, security, environmental protection, safety and other shipboard duties taking into consideration the international guidelines.

7.5 Tankers

7.5.1 A Company operating tankers shall ensure that all officers, rating and persons involved in cargo operation hold a basic training in accordance with the provisions of STCW requirements relating to the type of tanker on which the person is serving. The Company should take into consideration the Bahamas guidance as outlined in BMA Information Bulletin no. 106

7.5.2 In addition to 7.5.1 above, a Company operating tankers shall ensure that all officers, rating and persons with immediate responsibility for cargo or cargo related operations hold advanced training in accordance with the provisions of STCW requirements relating to the type of tanker on which the person is serving. For the purpose of this requirement, the person deemed to have immediate responsibility is not limited to persons at management level but may include person assigned designated cargo related responsibilities dependent on the vessel's operational requirements.

7.6 High Speed Crafts

A Company operating high speed crafts shall ensure that all officers and crew specified on the manning of the Permit to Operate are trained in accordance with the provisions of the High Speed Craft Code.

7.7 Yachts

A Company operating yachts shall be guided by the BMA Information Bulletin 102 and 133 for the purpose of manning of the yacht.

7.8 Vessels which are required to comply with the International Ship and Port Facility Security Code (ISPS Code)

7.8.1 A Company operating ships, which have to comply with the ISPS Code, shall ensure that all persons specified on the SMD are trained in accordance with the provisions of STCW requirements

7.8.2 The Master shall ensure that all persons receive security related familarization training before being assigned to shipboard duties. The security related training familiarization training shall be conducted by the Ship Security Officer or an equally qualified person.

7.9 Vessels fitted with dynamic position systems

The Company should ensure that all persons specified on the SMD and engaged in operating a dynamic position system have the relevant training and experience prior to be assigned their shipboard duties. For this purpose, dynamic positioning is defined as the system whereby a self propelled vessel's position and heading is automatically controlled by using its own propulsion units.

7.10 Vessels operating in Polar Waters

The Company should ensure that prior to be assigned shipboard duties, the master and Officers specified on the SMD are duly trained and have the relevant experience relating to operation in polar waters.

7.11 Vessels fitted with ECDIS

7.11.1 The Company should ensure that if the ship is fitted with ECDIS, the master and navigating officers have appropriate ECDIS training.

7.11.2 The Master shall ensure that all affected officers have documentary evidence ECDIS training prior to be assigned their shipboard navigational duties.

7.11.3 The Company and Master should take into consideration the Bahamas guidance as outlined in BMA Information Bulletin no. 138

7.12 Vessels with five or more seafarers

Ships with five or more seafarers must establish a safety committee comprising of persons who are either appointed or elected as safety representatives to participate in the meetings of the committee.

8 Employment of additional seafarers by the company.

8.1 A Company may decide to employ more seafarers than stipulated in the SMD. These seafarers shall be trained to a level appropriate to their duties in addition to having the minimum basic training for emergency, safety and survival. The statutory certificates will detail the maximum number of persons on board and there must be sufficient accommodation satisfying the MLC 2006 standards for that number.

8.2 There are a number of capacities that are not identified in STCW and accordingly the SMD may not refer to them. The Company should decide on their qualification or experience in accordance with the objectives of their Safety Management System but if the persons are employed and assigned shipboard safety, security, environmental protection, cargo operations or watch-keeping duties, the person must complete STCW basic training before joining the ship and receive shipboard familiarization training before being assigned their shipboard tasks/duties.

9 Vessel not engaged in normal trades.

9.1 The manning level for a vessel in laid up condition should take into consideration the guidelines in paragraph 5 of BMA Information Bulletin 122 and the operational requirements of the vessel at any given time. Any reduction of normal manning should be considered with the full approval of the local authority.

9.2 The BMA recommends that a master or other suitably qualified person remains in charge and sufficient numbers of trained persons to meet any emergency situation or operational circumstance, depending upon the machinery and systems that are operational remain on board at any given time. In such circumstances, communication must be maintained with the local authority so that further assistance may be obtained immediately when required.

9.3 Offshore Units that operate for prolonged periods on one location may be issued with a SMD that reflects the static status of that Unit. Additional guidelines are outlined in BMA Information Bulletin 122.

10 Exceptional circumstances (Exemption)

10.1 In exceptional circumstances where the manning level falls below that of the SMD e.g. due to crew illness, unexpected repatriation on compassionate grounds etc., the vessel may as a measure of force-majeure, sail with one person less than that stipulated in the SMD. This also applies to vessel which are required to carry a Doctor as specified in Section 5.3.1

10.2 In all such cases the master, in consultation with the chief engineer where the shortage relates to an engineer officer, should ensure that there is continuity of watches by duly qualified persons without affecting the statutory minimum period of rest.

10.3 The above provision to sail a person short of that stated on the SMD do not apply to the capacities of master and chief engineer on the basis that one person must be designated as master and one person designated as chief engineer. If the designated person does not hold a STCW certificate that allows s/he to serve in the capacity of a master or chief engineer then the Company shall apply for a dispensation taking into consideration the provisions of Section 11 of this Bulletin.

10.4 The BMA must be notified and provided with the following information in writing, which must also be duly recorded in the Official Log Book (OLB) :

a. Rank of the affected officer(s)
b. Name of ship
c. No. of crew onboard, excluding affected officer
d. Intended voyage
e. Date of departure
f. Reason for exemption
g. Time of notification to BMA

10.5 The shortage must be filled at the earliest opportunity and in any case not later than fourteen (14) days or at the next port, if the intended voyage is more than fourteen (14) days.

11 Exceptional circumstances (Dispensation)

11.1.1 Where, in exceptional circumstances, a Company is unable to achieve the minimum manning due to the lack of a duly certificated Officer for a specific capacity, a dispensation under STCW Article VIII maybe considered in respect of an Officer who does not hold a certificate for the relevant capacity. A dispensation for a Master or Chief Engineer will only be granted in circumstances of *force majeure* for the shortest possible time as determined by the BMA.

11.1.2 The Company must apply to the BMA for such a dispensation and provide the following:

a. Full details of the officer, including his or her national certificate and Flag State Endorsement (FSE)
b. Total seagoing service since qualification as an Officer
c. Name of ship
d. No. of crew onboard
e. Intended voyage
f. Date of departure
g. Reason for dispensation
h. Dispensation fee (See BMA Information Bulletin no. 81)

11.2.1 Where, in exceptional circumstances, a Company is unable to achieve the minimum manning due to the lack of a duly certificated Cook, a dispensation maybe considered in respect of a person who does not hold a Cook certificate. A dispensation for a Cook may be granted for the shortest possible time as determined by the BMA.

11.2.2 The Company must apply to the BMA for such a dispensation and provide the following:

a. Full details of the person
b. Total seagoing service and confirmation that the person has been trained or instructed in food hygiene, personal hygiene, and handling and storage of food onboard ship.
c. Name of ship
d. No. of crew onboard
e. Intended voyage
f. Date of departure
g. Reason for dispensation
h. Dispensation fee (See BMA Information Bulletin no. 81)

11.3 The BMA will assess the submitted information and where applicable this assessment may include consultation with the Administration that issued the national Certificate which was endorsed. If the assessment is satisfactory, the BMA will issue a dispensation document and invoice the Company accordingly.

12 Exceptions: Hours of rest

Notwithstanding the provisions of STCW A-VIII/1.9, if there is a need for regular exceptions from the weekly rest period, the Company shall undertake an assessment of the manning level in order to determine if the manning level onboard is sufficient in order to comply with the hours of rest requirements taking into consideration 13.1 of this Bulletin and BMA Information Bulletin 144. The outcome of this assessment shall be documented with a copy maintained onboard and if the assessment is negative, the necessary application shall be submitted to the BMA to review the safe manning level.

13 Application for SMD

13.1 The Company shall make an application for a safe manning document following an assessment that take into consideration, the guidelines in this Bulletin and IMO Resolutions *A. 891 (21*), A. *893(21), A. 999 (25) and A. 1047 (27)* as applicable which are contained in the Appendix. The proposed minimum manning level is not limited to the watch-keeping personnel but should now include any additional persons deemed necessary for the safe operation of the vessel taking into consideration the international guidelines and the following:

.1 Principles

.1 the capability to:

a) maintain safe navigational, port, engineering and radio watches in accordance with regulation VIII/2 of the 1978 STCW Convention, as amended, and also maintain general surveillance of the ship;
b) moor and unmoor the ship safely;
c) manage the safety functions of the ship when employed in a stationary or near-stationary mode at sea;
d) perform operations, as appropriate, for the prevention of damage to the marine environment;
e) maintain the safety arrangements and the cleanliness of all accessible spaces to minimize the risk of fire;
f) provide for medical care on board ship;
g) ensure safe carriage of cargo during transit;
h) inspect and maintain, as appropriate, the structural integrity of the ship;

i) operate in accordance with the approved Ship's Security Plan; and

.2 the ability to:

a) operate all watertight closing arrangements and maintain them in effective condition, and also deploy a competent damage control party;
b) operate all onboard fire-fighting and emergency equipment and life-saving appliances, carry out such maintenance of this equipment as is required to be done at sea, and muster and disembark all persons on board; and
c) operate the main propulsion and auxiliary machinery including pollution prevention equipment and maintain them in a safe condition to enable the ship to overcome the foreseeable perils of the voyage.

.2 Onboard functions,:

.1 ongoing training requirements for all personnel, including the operation and use of fire-fighting and emergency equipment, life-saving appliances and watertight closing arrangements;
.2 specialized training requirements for particular types of ships and in instances where crew members are engaged in shipboard tasks that cross departmental boundaries;
.3 provision of proper food and drinking water;
.4 need to undertake emergency duties and responsibilities;and
.5 need to provide training opportunities for entrant seafarers to allow them to gain the training and experience needed.

.3 Other relevant factors including;

.1 performance of functions at the appropriate levels of responsibility;
.2 cargo handling;
.3 operation of the ship and care for persons on board;
.4 marine engineering, including the tasks, duties and responsibilities involved with ship's propulsion;
.5 electrical, electronic and control engineering requirements;
.6 radiocommunications;
.7 the management of safety, security and protection of the marine environment;
.8 the number of qualified and other personnel required to meet peak workloads situations

13.2 A specimen of the Bahamas Safe Manning Application application form (R106) is attached and available for download on the BMA website. The BMA will also accept a written application provided it has all the necessary information, including the details of the ship, its equipment and the intended area of operation.

13.3 In addition, the Company maybe required to provide additional supporting information such as the Muster List, manning for mooring operations, hours of rest schedule, in order to clarify the proposed manning levels which should enable all such operations. If additional information/clarification is required, the BMA may issue a conditional SMD during this process

13.4 The "*Other*" category on form R106 allows the applicant to make their assessment of the shipboard operations and propose persons that are allocated additional tasks. These persons maybe those non watchkeepers that are required or are allocated emergency duties, mooring operation, crowd control (on a passenger ship), safe cargo operation (on tanker), etc.

13.5 Passenger ships, offshore units or any other vessel that may have different manning levels dependent on the vessel's operational status (e.g. FPSO re-positioning, passenger ship with different passenger complement) should reference this information and propose a manning scale linked to the relevant condition. As an example, a passenger ship may have a different manning level with full passenger complement onboard as opposed to a re-positioning voyage without any passengers and likewise an FPSO manning level maybe different when underway compared to when on station.

13.6 The Company may conduct a generic assessment for sister ships which will be engaged on similar trading voyages and/or operations.

14 Issue of SMD

14.1 The BMA will consider all international requirements and guidance in drafting a SMD in order to be satisfied that the manning shall meet the intended goals.

14.2 In this respect the BMA may increase the scale of manning from that proposed by the Company. The BMA will not normally reduce the manning level from that proposed by the Company unless it considers certain references in the SMD application proposed by the Company are unnecessary or inconsistent with standard practices.

14.3 Notwithstanding the manning prescribed in the SMD, if the Company subsequently determines that it is difficult to provide minimum periods of rest after meeting all the essential duties and functions then the Company shall increase the manning levels and notify the BMA accordingly.

14.4 No vessel shall proceed to sea or undertake a voyage unless it is manned, at the minimum, in compliance with the SMD.

15. Validity of SMD

15.1 A SMD issued to a ship shall have a validity of five years from the date of issue.

15.2 A new SMD is also required to be issued when :

.1 there is a change of vessel's name, or

.2 there is a change of trading area as documented on the SMD,or

.3 change of Managers; or

.4 any other changes/alterations to the ship, its crew, construction, machinery, equipment, operation, maintenance, or management that affects the manning level required to continue safe operations compliant with the Conventions and this Bulletin.

15.3 Notwithstanding the provisions of STCW A-VIII/1.9, if there is a need for regular exceptions from the weekly rest period, the Company shall undertake an assessment of the manning level in order to determine if the manning level onboard is sufficient in order to comply with the hours of rest requirements taking into consideration the guidelines of this Bulletin. The outcome of this assessment shall be documented with a copy maintained onboard and if the assessment is negative, the necessary application shall be submitted to the BMA to review the safe manning level.

15.4 All existing Bahamas registered ships will have to renew their existing SMD, if it does not have an expiry date, no later than 31 December 2013**.**

15.5 The revised format as outlined in IMO Resolution A. *1047 (27*) will be used commencing October 2012.

16 Fees

Fees for the above will be as noted in the BMA Information Bulletin 81.

17 Revision History

Rev.3 (31 August 2012) – Third issue

Official Use only

Date of receipt:

The Bahamas Maritime Authority

Application for Safe Manning Document (SMD)

Any certificate issued will reflect the minimum manning levels approved by the Authority. The certificate will not include personnel carried in the ship in excess of the approved minimum scale.

SECTION 1 MANAGERS / MANAGEMENT COMPANY'S DETAILS

(Please note all correspondence relating to the Safe Manning Document will be made through this address. Unless requested otherwise, the original copy of the SMD will also be posted to this address.)

Name	
Mailing Address	
Telephone Numbers:	
Email	Fax

SECTION 2 GENERAL PARTICULARS (Please put 'N/A' if any box is not applicable)

Ships name	Port of Registry	
IMO Number	Official Number	
Type of Ship		
Length	Breadth	
Gross Tonnage	Trading Area	
Numbers of Tanks	Number of Holds	Type of Hatch covers
Number of Pump rooms/space	Cargo Gear Type	Cargo Gear Numbers
Total Persons on Board	Number of MES	Number of Life Rafts
Number of Lifeboats	Type of Lifeboat or Liferaft Davits	
Number of Assembly Stations	Number of Rescue Boats	Number of Muster Teams

SECTION 3 COMMUNICATIONS (Please tick the relevant box)

GMDSS ◯ A1 ◯ A2 ◯ A3 ◯ A4	Radio Maintenance Agreement ◯ Onboard ◯ Shorebased	Particulars of Internal Communications

SECTION 4 MACHINERY (Please tick the relevant box)

Type of Main Engine	Propulsion Power (KW)	Unmanned E/R ◯ Yes ◯ No
Bridge Control ◯ Yes ◯ No	E/R Watch Alarm system ◯ Yes ◯ No	Number of Generators
E/R Bilge Alarm System ◯ Yes ◯ No	E/R Fire Detection System ◯ Yes ◯ No	Fire Pumps capable of remote operation ◯ Yes ◯ No

SECTION 5 MOORING ARRANGEMENTS

Number of Winches	Winch Type	Power Source of Winches

SECTION 6 PROPOSED MANNING SCALE

CAPACITY	QUALIFICATION[1]	NUMBER[5]	NUMBER[5]		QUALIFICATION[1]	NUMBER[5]	NUMBER[5]
MASTER				CHIEF ENGINEER			
CHIEF MATE				SECOND ENGINEER			
OFFICER IN CHARGE OF NAVIGATION WATCH				OFFICER IN CHARGE OF ENGINEERING WATCH			
ABLE SEAFARER (DECK)[3]				ELECTRO TECHNICAL OFFICER[4]			
RATING FORMING PART OF NAVIGATIONAL WATCH				ABLE SEAFARER (ENGINE)[3]			
RATING (APPROPRIATE BASIC STCW TRAINING)				RATING FORMING PART OF ENGINEERING WATCH			
OFFSHORE INSTALLATION MANAGER (OIM)				ELECTRO TECHNICAL RATING[4]			
BARGE SUPERVISOR				MAINTENANCE SUPERVISOR			
BALLAST CONTROL OPERATOR				COOK			
OTHER[2]				DOCTOR			

1) In the 'qualifications' column , please put relevant 'STCW notations' or 'IMO resolution number' as appropriate.

2) In the 'Other' category, please put the number of additional persons required to manage any operational or emergency situations taking into account 'Total Persons on Board'. These persons only need to have STCW training or instructions dependent on their assigned shipboard duties in respect of safety, security or environmental protection.

3) A STCW II/4 or III/ 4 certificate will continue to be accepted for existing seafarers for Able Seafarer (Deck) or Able Seafarer (Engine) positions until 31 December 2016 ; after this date a STCW II/5 or STCW III/5 qualification respectively will be required. New entrants from 01 July 2013 will need a II/5 or III/5 qualification respectively whenever they are accepted for above positions.

4) Existing Elecro-Technical Officers and Electro-Technical Ratings may continue to work with non-STCW national certificates until 31 December 2016; after this date a STCW III/6 or STCW III/7 qualification respectively will be required. New entrants from 01 July 2013 will need a STCW III/6 or a STCW III/7 qualification respectively whenever they are accepted for above positions.

5) There are two columns for putting the number for each capacity. If two different manning levels are proposed for different trading area, then the number for common trading area (e.g. Near Coastal area) should be put on the left column and number for occasional trading area (e.g. Unlimited area) should be on the right column. If two columns are used, there should be a statement in 'section 8' briefly explaining why different manning levels are required. If manning is required only for one trading area, then one column should be used and if more than 2 manning levels are required, the additional level can be inserted in 'Section 8'.

SECTION 7 ADDITIONAL INFORMATION

Does the Master take a navigational watch? ◯ Yes ◯ No	Does the Chief Engineer take a watch? ◯ Yes ◯ No

Who acts as the designated Security Officer, if any?

Who is responsible for the maintenance of Fire and Life Saving appliance?

Who will be the primary GMDSS/Radio operator?

Who is designated for medical care/first aid on board?

Section 7 Continued on next page

SECTION 7 ADDITIONAL INFORMATION CONTINUED

Who is responsible for the Electrical, Electronic, Control and Computer network System and equipment? (If these are essential equipment which requires an onboard personnel who is not an STCW Engineer, then that person(s) should be included in 'Section 6' and must hold an appropriate STCW certificate)

How many crew members required to operate the cargo handling gear(s), if applicable?	How many crew members required to clean machinery space and to assist in the machinery space in the event of a breakdown?	How many crew members required for hold/tank cleaning, if applicable?

SECTION 8 ANY OTHER FACTORS

(Any issue not included in other sections but is pertinent to the Application may be mentioned. Also, please state the name of the company to be invoiced for the fees related to the Safe Manning Document.)

SECTION 9 DECLARATION

On behalf of the owners of the vessel, I hereby confirm that an assessment has been carried out taking into consideration the international and flag state requirements relating to the Safe Manning Document and the proposed manning is deemed to be the minimum for the vessel's safe operation, for its security, for protection of the marine environment, and for dealing with emergency situations.

I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THE PARTICULARS GIVEN BY ME IN THIS FORM ARE CORRECT.

Signature	Full Name
Position	Company
Date	

The application should be forwarded to the appropriate BMA office. The addresses of BMA offices worldwide are available from the website: www.bahamasmaritime.com

INTERNATIONAL MARITIME ORGANIZATION

IMO

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ASSEMBLY
21st session
Agenda item 9

A 21/Res.891
4 February 2000
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RESOLUTION A.891(21)
adopted on 25 November 1999

RECOMMENDATIONS ON TRAINING OF PERSONNEL ON MOBILE OFFSHORE UNITS (MOUs)

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

CONSIDERING that personnel on mobile offshore units (MOUs) are often required to work under potentially hazardous conditions, and will be in a better position to protect themselves and others in the event of an emergency if adequately trained,

RECOGNIZING the need for maritime safety and emergency preparedness training for all personnel working on MOUs,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its sixty-ninth session,

1. ADOPTS the Recommendations on Training of Personnel on Mobile Offshore Units (MOUs), set out in the Annex to the present resolution;

2. URGES Governments concerned to implement the defined competencies in these recommendations as soon as practicable and to issue certificates and all other appropriate documents to personnel who are qualified and have successfully completed the training recommended in this resolution;

3. URGES ALSO Governments to consider acceptance of relevant certificates and documents based on this resolution;

4. AUTHORIZES the Maritime Safety Committee to keep the annexed recommendations under review and amend them as necessary;

5. REVOKES resolutions A.538(13), A.712(17) and A.828(19).

ANNEX

RECOMMENDATIONS ON TRAINING OF PERSONNEL ON MOBILE OFFSHORE UNITS (MOUs)

1 SCOPE

1.1 These recommendations provide an international standard for training for all personnel on mobile offshore units aimed at ensuring adequate levels of safety of life and property at sea and protection of the marine environment complimentary to that required by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended and the Seafarers' Training, Certification and Watchkeeping (STCW) Code.

1.2 The provisions of these recommendations are without prejudice to any rights of coastal States under international law to impose their own additional requirements relating to training, qualifications and certification of personnel on board units engaged, or intending to engage, in the exploration for, or exploitation of, the natural resources of those parts of the sea-bed and subsoil over which those States are entitled to exercise sovereign rights.

2 TERMS AND DEFINITIONS

2.1 For the purpose of these recommendations the terms used have the meanings defined hereunder:

.1 **Mobile offshore units** (MOUs) means vessels which can be readily relocated and which can perform an industrial function involving offshore operations other than those traditionally provided by vessels covered by chapter I of the 1974 SOLAS Convention. Such MOUs include at least the following:

.1 **column-stabilized unit** is a unit with the main deck connected to the underwater hull or footings by columns or caissons;

.2 **non-self-propelled unit** is a unit not certified to navigate independently;

.3 **self-elevating unit** is a unit with movable legs capable of raising its hull above the surface of the sea;

.4 **self-propelled unit** is a unit certified to navigate independently;

.5 **submersible unit** is a unit with a ship shape, barge-type or novel hull design (other than a self-elevating unit) intended for operation while bottom bearing; and

.6 **surface unit** is a unit with a ship- or barge-type displacement hull of single- or multiple-hull configuration intended for operation in the floating condition.

.2 **Mobile offshore drilling unit** is a unit capable of engaging in drilling operations for the exploration for, or exploitation of, resources beneath the sea-bed such as liquid or gaseous hydrocarbons, sulphur or salt.

.3 **Drillship** is a self-propelled ship-shape monohull surface mobile offshore drilling unit.

.4 **Mobile offshore accommodation unit** is a unit the primary purpose of which is to accommodate personnel working offshore.

.5 **Other mobile offshore unit** is a unit which may be involved in any single activity or combination of activities such as:

- construction;
- maintenance (including the maintenance of wells);
- lifting operations;
- pipe-laying and related operations;
- emergency / contingency preparedness, including fire-fighting;
- offshore production systems; and
- diving.

Mobile offshore units do not include vessels such as:

- supply vessels;
- standby vessels;
- anchor-handling vessels;
- seismic vessels; and
- ship-shape monohull diving support vessels.

.6 **Maritime safety training** means training with respect to safety of life at sea, including personal and group survival.

.7 **Emergency preparedness training** means training which prepares individuals to respond adequately and safely to anticipated emergency situations.

.8 **Offshore installation manager (OIM)** means a competent person appointed in writing by the owner as the person in charge, who has complete and ultimate command of the unit and to whom all personnel on board are responsible.

.9 **Barge supervisor** means a person who may provide support to the OIM in certain essential marine matters. The barge supervisor on some MOUs may be referred to as the stability section leader or barge master.

.10 **Ballast control operator** means the person assigned responsibility for the normal day-to-day control of trim, draught and stability.

.11 **Maintenance supervisor** means the person assigned responsibility for the inspection, operation and testing, as required, of all machinery and equipment as specified by the owner of the MOU. The maintenance supervisor on some MOUs may also be referred to as the chief engineer, technical section leader or rig mechanic.

.12 **Special personnel** means all persons carried on board a mobile offshore unit in connection with the special purpose of the unit or with special work being carried out on the unit, and who are neither seafarers nor directly or indirectly paying passengers.

.13 **Maritime crew** comprises the OIM, barge supervisor, ballast control operator and maintenance supervisor as well as other deck and engineer officers, radio operators and ratings as defined in regulation I/1 of the STCW Convention, as amended.

.14 **Mode of operation** means the condition or manner in which a unit may operate or function while on location or in transit. The modes of operation of a unit include the following:

.1 **Operating conditions:** conditions wherein a unit is on location for the purpose of conducting operations, including drilling and production activities, and wherein combined environmental and operational loadings are within the appropriate design limits established for such operations. The unit may be either afloat or supported on the sea-bed, as applicable.

.2 **Survival conditions:** conditions wherein a unit may be subjected to environmental loadings in excess of those established by the unit's operating manual. It is assumed that routine operations will have been discontinued due to the severity of the environmental loading. The unit may be either afloat or supported on the sea-bed, as applicable.

.3 **Transit conditions:** conditions wherein a unit is moving from one geographical location to another.

.4 **Combined operations:** operations in association with, or in close proximity to, another mobile offshore unit or offshore installation, where conditions on the other unit or installation may have an immediate impact on the safety of the unit; for example, a mobile offshore drilling unit attached to a fixed platform.

.15 **Muster list** means the list prescribed by an international convention or recommendation which applies to the unit. If no convention or recommendation applies, it means a similar list which indicates essential information on actions to be taken in the event of an emergency, in particular the station to which each person should go and the duties which that person should perform including the designation of individual responsibilities for the safety of others.

.16 **Administration** means the Government of the State whose flag the MOU is entitled to fly.

.17 **Coastal State Administration** means the Government of the coastal State concerned in cases where a MOU is engaged in exploration for, or exploitation of, the sea-bed and subsoil thereof, adjacent to the coast over which the coastal State exercises sovereign rights for the purposes of exploration and exploitation of their natural resources.

3 RESPONSIBILITIES OF COMPANIES AND PERSONNEL

3.1 Every company employing personnel assigned to duty on mobile offshore units, offshore installation managers and offshore personnel has responsibility for ensuring that the standards set out in these recommendations are given full and complete effect. In addition, other measures as may be necessary should be taken to ensure that personnel can make knowledgeable and informed contributions to the safe operation of the unit.

3.2 The owner of the mobile offshore unit should provide written instructions to the offshore installation manager setting forth the procedures to be followed in order to:

.1 provide appropriate documentation of training for all personnel working on MOUs which indicates that training in accordance with this standard and, as applicable, with the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978 as amended, has been accomplished; and

.2 maintain training records on the unit.

3.3 The OIM should designate a knowledgeable individual who will be responsible for ensuring that an opportunity is provided to each newly-assigned individual to receive essential information in a language that he or she understands.

4 MARITIME CREW ON SELF-PROPELLED MOBILE OFFSHORE UNITS AND, WHERE REQUIRED, ON OTHER UNITS

4.1 All maritime crew members on self-propelled mobile offshore units and, where required, on other units should meet the requirements of the STCW Convention, as amended.

4.2 In addition to meeting the requirements referred to in paragraph 4.1 above, all maritime crew members should be given on-board training and instruction in types of emergencies which might occur on the particular type of mobile offshore unit on which they serve.

5 MINIMUM STANDARDS FOR FAMILIARIZATION AND BASIC SAFETY TRAINING INSTRUCTION AND COMPETENCES FOR ALL PERSONNEL

5.1 Categories of offshore personnel

Offshore personnel are, for practical reasons, divided into four categories:

Category A: Visitors and special personnel not regularly assigned who are on board for a limited period of time, in general not exceeding three days, and have no tasks in relation to normal operations of the unit.

Category B: Other special personnel without designated responsibility for the safety and survival of others.

Category C: Regularly assigned special personnel with designated responsibility for the safety and survival of others.

Category D: Maritime crew members.

5.2 Familiarization training (all personnel)

5.2.1 Before being assigned to duties related to the regular operations of the unit, all personnel (categories A, B, C and D) should receive offshore orientation, familiarization training or sufficient information and instruction in personal survival techniques and workplace safety. Such familiarization training, information or instruction should ensure that personnel are able to:

.1 communicate with other persons on board on elementary safety matters and understand safety information symbols, signs and alarm signals, especially with regard to knowing what to do if:

.1 a person falls overboard,

.2 fire, smoke, or hydrogen sulphide is detected; or

.3 the fire, abandon ship, toxic gas, or other general alarm is sounded;

.2 locate and don lifejackets and, if provided, immersion suits;

.3 identify muster and embarkation stations and emergency escape routes;

.4 raise the alarm and have a basic knowledge of the use of portable fire-extinguishers;

.5 take immediate action upon encountering an accident or other medical emergency on board;

.6 close and open the fire, weathertight and watertight doors fitted on the unit, other than those for hull openings;

.7 follow the unit's basic safe work practices and permit-to-work system; and

.8 the unit's basic organizational structure and chain of command.

5.2.2 In the case of persons not staying on board overnight, the training, information or instruction provisions specified in paragraphs 5.2.1.4 to 5.2.1.8 above may be reduced in scope or omitted, provided such persons are accompanied by knowledgeable individuals while on the unit.

5.2.3 A generalized course of offshore safety training or instruction obtained onshore may satisfy this requirement provided it is supplemented with the training, information or instruction specified in 5.2.1.3 and 5.2.1.8 above.

5.2.4 Familiarization training should be provided at intervals not greater than five years.

5.2.5 Individuals should be required to provide evidence of having received familiarization training within the previous five years.

5.3 Training for all regularly assigned personnel and other special personnel

5.3.1 Before being assigned to duties related to the regular operations of the unit, all regularly assigned personnel and other special personnel without designated responsibility for the safety and survival of others (i.e. categories B, C and D) should receive training in personal survival, fire prevention and fire-fighting, elementary first aid, personal safety and social responsibilities as set out in tables 5.3.1 to 5.3.5. Every effort should be made to provide such training prior to proceeding offshore.

5.3.2 The following training should be provided either ashore and/or on the unit, as appropriate, by qualified and experienced persons:

.1 Familiarization and orientation on general arrangements of the MOU, central processes, operating systems, equipment and procedures, organization, safety philosophy and contingency plans, as well as preventive safety systems such as permit-to-work procedures, company health and medical services, and other matters related to safety.

.2 Practical familiarity with emergency duties.

.3 Understanding the critical need to bring any abnormal situation to the attention of a responsible person.

.4 Knowledge of available evacuation methods and procedures.

.5 Knowledge of alarm procedures for emergency situations.

.6 Knowledge of safety procedures.

.7 Hydrogen sulphide (H_2S) training, where applicable.

.8 Operations and emergencies involving divers, where applicable.

5.3.3 A regular programme of drills and exercises should be established in order to provide and/or supplement training and provide for evaluation and assessment. Guidance regarding drills and exercises is provided in the appendix.

5.3.4 Individuals should be required to provide evidence of having achieved the required standard of competence to undertake the tasks, duties and responsibilities listed in column 1 of tables 5.3.1 to 5.3.5 within the previous five years through demonstration of competence or examination or continuous assessment as part of an approved training programme. Guidance regarding the use of drills for assessment of competence is provided in the appendix.

5.4 Specialized training

5.4.1 Specialized training, as appropriate to the individual duties assigned on the muster list, should be provided to personnel in categories C and D.

5.4.2 Depending on their assigned duties, personnel should receive instruction and training in the following:

.1 for those in charge of survival craft, proficiency in survival craft and rescue boats other than fast rescue boats as specified in table A-VI/2-1 of the STCW Code;

.2 for those assigned to operate fast rescue boats, proficiency in fast rescue boats as specified in table A-VI/2-2 of the STCW Code;

.3 for those in charge of the unit, and those designated to control fire-fighting operations, proficiency in advanced fire-fighting as specified in table A-VI/3 of the STCW Code;

.4 for those designated to provide immediate first aid, proficiency in medical first aid as specified in table A-VI/4-1 of the STCW Code; and

.5 for a person designated to take charge of medical care on board the unit, proficiency in taking charge of medical care as specified in table A-VI/4-2 of the STCW Code.

5.4.3 Since specialized training may not be provided on the unit, care should be taken to ensure that newly-assigned personnel with designated responsibility for the survival of others have sufficient experience, instruction, information or training on the equipment they are to use.

Table 5.3.1
Specification of minimum standard of proficiency in personal survival

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Emergency signals	Personnel should receive an initial orientation on the types and identification of emergency signals Personnel should be acquainted with the posting of the muster list as a source for defining emergency signals In the case of combined operations personnel should receive supplemental information on additional alarms and procedures	Examination or assessment of evidence obtained during satisfactory participation in drills and exercises	Actions taken during drills and in emergencies are appropriate to the emergency signal
Mustering of personnel	During onboard orientation all personnel will be shown their primary safe muster areas Personnel should be acquainted with the posted muster list	Examination or assessment of evidence obtained during satisfactory participation in drills and exercises	Actions taken during drills and in emergencies are appropriate to the emergency signal
Use of lifejacket	Personnel will receive instruction on location, types, inspection and donning lifejackets	Don lifejacket	Lifejacket is donned correctly
Use of immersion suits	Personnel will be given instruction on location, type, inspection and donning of immersion suits, if required	Don immersion suit	Immersion suits are donned correctly
Lifeboat procedures	Personnel will be instructed on proper entry into lifeboats and the use of seat belts	Board lifeboat during drills and strap in	Lifeboat is boarded correctly
Modes of evacuation	Personnel will be instructed on the selection and use of available modes of evacuation. This may include: -helicopter -catwalks or bridges -standby vessel -lifeboat -liferaft -ladders/escape devices -jumping from height (undesirable)	Examination or assessment of evidence obtained during satisfactory participation in drills and exercises	Demonstration of correct actions during drills and exercises
Boarding liferafts or buoyant apparatus	Personnel will be instructed on boarding a liferaft or buoyant apparatus both at deck level and from the sea	Examination or assessment of evidence obtained during satisfactory participation in drills and exercises	Demonstration of correct actions during drills and exercises

Table 5.3.1 (continued)
Specification of minimum standard of proficiency in personal survival

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Water survival techniques	Personnel will be instructed on the following, as applicable: -- use of lights and whistles and other signalling devices -- proper body positions to conserve body heat and prevent hypothermia -- how to right an inverted liferaft -- boarding a rescue craft from the water	Examination or assessment of evidence obtained during satisfactory participation in drills and exercises	Demonstration of correct actions during drills and exercises
Deployment of life rings and associated equipment	Personnel will be instructed in the procedures for deploying life rings and associated equipment Personnel will be instructed in the procedures for raising the alarm	Examination or assessment of evidence obtained during satisfactory participation in drills and exercises	Demonstration of correct actions during drills and exercises

Table 5.3.2
Specification of minimum standard of fire prevention and fire fighting

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Minimize the risk of fire and maintain a state of readiness to respond to emergency situations involving fire	Personnel should receive instruction that would include, but not be limited to, the following: .1 elements of fire and explosion (the fire triangle) .2 types and sources of ignition .3 flammable materials, fire hazards and spread of fire .4 requirement for constant vigilance .5 classification of fire and applicable extinguishing agents Personnel should receive an initial orientation and familiarization instruction that would include, but not be limited to, the following: .1 onboard fire-fighting organization and muster list .2 location of fire-fighting equipment and emergency escape routes .3 onboard fire and smoke detection and automatic alarm systems .4 actions to be taken on discovery of smoke or fire .5 in the case of combined operations, supplemental instruction on additional alarms and procedures Personnel should receive instruction on actions to be taken, given the individual's status onboard	Examination or assessment of evidence obtained during satisfactory participation in drills and exercises	Initial actions during drills or in response to emergencies conform to established procedures
Fight and extinguish fires	Personnel should receive familiarization instruction that includes the following: .1 selection and use of fire-fighting equipment and its location on board .2 selection and use of personal protective equipment .3 fire-fighting and containment methods .4 fire-fighting agents	Examination or assessment of evidence obtained during satisfactory participation in drills and exercises	Actions during drills or in response to emergencies conform to established procedures

Table 5.3.3
Specification of minimum standard of proficiency in elementary first aid

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Take appropriate action upon encountering an accident or other medical emergency	Assessment of needs of casualties and of threats to own safety	Assessment of evidence obtained from approved instruction or during attendance at an approved course	The manner and timing of raising the alarm is appropriate to the circumstances of the accident or medical emergency
	Appreciation of body structure and functions		
	Understanding of immediate measures to be taken in case of emergency, including the ability to: .1 position casualty .2 apply resuscitation techniques .3 control bleeding .4 apply appropriate measures of basic shock management .5 apply appropriate measures in event of burns and scalds, including accidents caused by electric current .6 rescue and transport a casualty .7 improvise bandages and use materials in emergency kit		Takes prompt action to evaluate the nature and extent of injuries and to prioritize treatment. Applies appropriate first aid measures to identified injuries in accordance with training provided Risk of further harm to self and casualty is minimized at all times

Table 5.3.4
Specification of minimum standard of competence in personal safety

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Comply with emergency procedures	Types of emergency which may occur, such as collision, fire, foundering General knowledge of contingency plans for response to emergencies and individual responsibility thereunder Emergency signals; muster list; muster stations; and correct use of personal safety equipment Action to take on discovering potential emergency including: fire, collision, foundering and ingress of water Action to take on hearing emergency alarm signals Knowledge of escape routes and internal communication and alarm systems	Examination or assessment of evidence obtained during satisfactory participation in drills and exercises	Action during drills or in response to emergencies conform to established procedures
Prevention of pollution	Personnel will be instructed in potentially harmful effects of pollution and steps to identify and prevent pollution	Examination or assessment of evidence obtained during satisfactory participation in drills and exercises	Follows established pollution prevention procedures
Observe safe working practices	Importance of adhering to safe working practices at all times Safety and protective devices available to protect against potential hazards Precautions to be taken prior to entering enclosed spaces	Examination or assessment of evidence obtained during satisfactory participation in safety meetings	Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times
Understand orders and instructions and be understood in relation to assigned duties	Ability to understand orders and instructions and to communicate with others in relation to assigned duties Personnel will be instructed in the chain of command and in the importance of following the orders and instructions of those appointed over them	Follows orders and instructions	Follows orders and instructions given

Table 5.3.5
Specification of minimum standard of competence in social responsibilities

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Contribute to effective human relationships on board MOU	Personnel should receive familiarization instruction that would include, but not be limited to, the following: .1 importance of maintaining good human and working relationships .2 special emphasis should be given to the following: .1 social responsibilities, individual rights and responsibilities and practice of respect for co-workers: .1 no ethnic, racial, religious or sexual jokes or harassment .2 no horseplay or practical jokes .3 no profanity .4 control noise levels .5 dress appropriately .6 attend to personal hygiene .7 maintain neatness in living and working spaces .8 respect for privacy of others .9 respect for property of others .10 comply with company policies regarding prohibited items .2 dangers of drug and alcohol abuse: .1 company policy .2 operator policy (if different) .3 legal sanctions .3 factors affecting human relationships in the offshore environment: .1 harsh weather and working environments .2 physically demanding .3 long hours and isolation from shore .4 be prepared for unexpected extended stays .5 prohibited items	Documentation from orientations given to personnel should reflect this topic is adequately covered This can be demonstrated by video, computer-based training, training syllabus or personnel receiving this information verbally through lectures Examination and assessment of evidence obtained from one or more of the following: .1 instruction or training given prior to going offshore, .2 instruction or training given on board the unit, or .3 direct observation of actions or conduct during training or instruction, while en route to or while onboard the unit	Demonstration of correct knowledge

6 SPECIALIZED TRAINING AND QUALIFICATIONS OF KEY PERSONNEL

6.1 General

Every unit should have sufficient key persons on board possessing the knowledge, qualifications, skills and experience necessary to ensure the safe operation of the unit. It is recognized that the nature of MOUs and their operations necessitate the consideration of specialized training and qualifications. The Administration should determine the adequacy of the knowledge, qualifications, skills and experience of the personnel assigned the responsibility for essential safety and pollution prevention functions on the basis of the design, type, size, and operating parameters of each MOU. Administrations are invited to consider the essential functions listed below in determining the necessary knowledge, qualifications, skills and experience for key personnel.

6.2 Offshore installation manager

6.2.1 The essential safety and pollution prevention functions for which the OIM is responsible and the related knowledge, competencies and qualifications required will depend on the type of unit and its mode of operation.

.1 The person in charge should be well acquainted with the characteristics, capabilities and limitations of the unit and should have a full knowledge of the organization and actions to take in an emergency and the need to conduct and keep records of emergency drills and training; and

.2 Persons delegated by him should possess the capability to maintain and operate all fire-fighting equipment and life-saving appliances on board the unit and be able to train others in these activities.

6.2.2 Subject to the more precise indications given in Table 6.1, which relates to the training, knowledge, skill and competency requirements for particular types of MOUs, it is considered necessary for the proper discharge of the essential safety and pollution prevention functions assigned to the OIM for the OIM to have knowledge, experience and have demonstrated competence in each of the following matters:

.1 stability and construction:

.1 the general principles of construction;

.2 the static and dynamic stability of floating MOUs; theory and factors affecting trim and stability; measures to preserve safe trim and stability, including sufficient knowledge of stability calculations and the use of stability booklets; also the relationship with the regulatory requirements in respect of the stability curves for operating and survival conditions, taking into account the effect of the environmental conditions prevailing;

.3 the effect on the trim and stability of a floating MOU in the event of damage to, and consequence flooding of, any compartment; counter-measures to be taken; knowledge of the principle and importance of maintaining the watertight integrity of the MOU; procedures for maintaining watertight integrity;

.4 loading supplies and ballasting in order to keep the unit's stresses within acceptable limits;

.5 principal structural members and required periodical inspections. Basic knowledge of the effects of welding. Effects of corrosion on the structure;

.6 the effect of the mooring system on stability; and

.7 preloading and leg reaction stresses on self-elevating units;

.2 station-keeping, mooring and dynamic positioning:

.1 sea-bed composition and characteristics;

.2 behaviour of mooring systems and force distribution, including the effect of environmental conditions;

.3 consequences of failure of the mooring system;

.4 anchor placement and recovery, and working with anchor-handling vessels; and

.5 the principles of the dynamic positioning system, including capabilities and limitations of thrusters, power systems and maximum allowable position offsets;

.3 transit operations:

.1 the 1972 Collision Regulations, as amended;

.2 navigation and electronic navigational aids appropriate to the type of unit; and

.3 towing procedures, including recovery of tow;

.4 emergency procedures and safety equipment:

.1 life-saving and fire-fighting procedures, including drills;

.2 maintenance and inspection of life-saving and fire-fighting appliances in accordance with the regulatory requirements;

.3 communication procedures in emergencies;

.4 precautions to be taken before the onset of heavy weather; and

.5 evacuation procedures;

.5 personnel transfers:

.1 precautions to be taken during transfer of personnel;

.2 use of the personnel basket;

.3 helicopter transfers; and

.4 vessel transfers;

.6 handling and stowage of supplies, including dangerous goods:

.1 safe handling, stowage and care of equipment, supplies and dangerous goods;

.2 cranes and lifting equipment and inspections; and

.3 procedures for loading and discharge of helicopters and supply vessels;

.7 pollution prevention and control:

.1 pollution prevention systems and equipment; and

.2 pollution control procedures;

.8 meteorology:

.1 the characteristics of various weather systems;

.2 ability to apply available meteorological information to ensure safety of the MOU and, upon request, supply other vessels or aircraft with information;

.3 sources of meteorological information; and

.4 the effects of weather on the environmental limits of the MOU;

.9 safe working practices:

.1 occupational safety, health and hygiene;

.2 hazardous areas;

.3 permits to work;

.4 work over water;

.5 work in enclosed spaces;

.6 personnel training;

.7 understanding of organization and communication; and

.8 understanding and inspection of safety equipment;

.10 regulatory and certification requirements, including an appreciation of international and national regulations and recommendations affecting operations; and

.11 industrial operations as they relate to maritime safety, including appreciation of the interrelationship between marine operations and specific industrial activities, including, where appropriate, the following:

.1 drilling and maintenance, where appropriate, of wells;

.2 construction and offshore maintenance and repair;

.3 production;

.4 accommodation support;

.5 lifting operations;

.6 pipe-laying;

.7 diving; and

.8 fire-fighting support.

6.2.3 Methods for demonstrating competence and criteria for evaluating competence for OIMs are set forth in Table 6.2.

6.3 Barge supervisor

6.3.1 Knowledge, experience and competence in each of the following matters is considered necessary for the proper discharge of the essential safety and pollution prevention functions assigned to the barge supervisor:

.1 stability and construction:

the stability concepts specified for the ballast control operator plus a period of service in that capacity;

.2 construction:

principles of construction, structural members, watertight integrity and damage control;

.3 emergency duties:

responsibilities set forth in the emergency plan or operating manual relating to the safety of the unit;

.4 communications:

communication procedures for normal operations and in an emergency;

.5 safe working practices:

.1 occupational safety, health and hygiene;

.2 hazardous areas;

.3 permits to work;

.4 work over water;

.5 work in enclosed spaces;

.6 personnel training; and

.7 understanding and inspection of safety equipment;

.6 regulatory requirements:

international and national regulations and recommendations affecting operations;

.7 emergency first aid:

provision of first aid to a casualty pending transfer to a medical facility;

.8 transit operations:

.1 the 1972 Collision Regulation, as amended;

.2 navigation and electronic navigational aids appropriate to the type of unit; and

.3 towing procedures, including recovery of tow;

.9 seamanship

.1 heavy weather;

.2 store and bulk liquid transfer;

.3 manoeuvring and positioning;

.4 anchor handling; and

.5 dynamic positioning, if applicable.

6.3.2 Methods for demonstrating competence and criteria for evaluating competence for barge supervisors are set forth in table 6.3.

6.4 **Ballast control operator**

6.4.1 Knowledge, experience and competence in each of the following matters is considered necessary for the proper discharge of the essential safety and pollution prevention functions assigned to the ballast control operator on column-stabilized units:

.1 basic stability:

.1 understanding of general terms, i.e. displacement, draught, trim, heel, freeboard, buoyancy, reserve buoyancy, etc.;

.2 understanding of centre of gravity, centre of buoyancy, position of metacentre, righting lever and its effect on transverse stability;

.3 stable, unstable and neutral equilibrium;

.4 theory of moments applied to stability including the effects of heavy lifts and movement of same;

.5 effect of adding, removing and shifting weight. Calculation of vertical, transverse and longitudinal shift of centre of gravity;

.6 understanding of the inclining experiment report and its use;

.7 effect of free surface on stability and factors affecting same;

.8 general understanding of change of trim, trimming moments, longitudinal metacentre and longitudinal stability;

.9 use of hydrostatic curves, deadweight scale and hydrostatic tables;

.10 use of cross curves to produce a curve of statical stability and information from curve;

.11 dynamical stability; synchronous rolling and angle of loll; stability criteria for MOUs;

.12 effect of mooring system on stability; and

.13 daily loading calculations;

.2 application of stability knowledge, where the following should include the relevant theory and calculations:

.1 deck loads and effect on stability; change in lightweight;

.2 examination of ballasting systems and procedures;

.3 response to systems failures including station-keeping systems, damage to structures and subsequent action;

.4 damage control procedure, watertight compartments counter-flooding, use of pumping systems and cross-connections;

.5 environmental conditions and their effect on stability;

.6 unit and environmental limitations and criteria for changing to survival condition;

.7 zones of reduced stability, precautions to take, unsymmetrical ballasting/de-ballasting and importance of sequence with regard to stress;

.8 theory of calculations carried out on daily loading sheet, variations in chain deployed and effect on vertical moment; and

.9 emergency procedures;

.3 supplementary training:

having successfully completed the formal training, as indicated above, no individual should work in a ballast control room without the supervision of a competent person for a period of time to enable him to become fully conversant with the ballasting systems of that unit. Before being left in sole charge and being required to react alone in the event of an emergency, the individual should receive experience of simulated emergency situations.

6.4.2 Methods for demonstrating competence and criteria for evaluating competence for ballast control operators are set forth in Table 6.4.

6.5 Maintenance supervisor

6.5.1 On self-propelled MOUs, the person assigned responsibility for the operation and maintenance of the main propulsion and auxiliary machinery should meet the appropriate knowledge requirements of chapter III of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended. (See section 4.1 on self-propelled MOUs).

6.5.2 On non-self-propelled MOUs, the person assigned responsibility for the operation and maintenance of the power plant and auxiliary machinery should have knowledge, experience and competence in each of the following:

.1 operation and maintenance of engines.

.2 operation and maintenance of auxiliary machinery including pumping and piping systems, associated control systems and, if appropriate, jacking systems;

.3 detection of machinery malfunction, location of faults to prevent or minimize damage;

.4 maintenance and repair problems;

.5 operation and maintenance of systems for fire prevention, detection and extinction;

.6 safe working practices;

.7 maintenance of survival craft and launching appliances; and

.8 pollution prevention procedures.

6.5.3 Methods for demonstrating competence and criteria for evaluating competence for maintenance supervisors on non-self-propelled MOUs are set forth in Table 6.5.

Table 6.1
Knowledge and training requirements for different types of MOU

Knowledge/ experience listed in 6.2.2	Type of MOU						
	Drillship	Self-propelled		Non-self-propelled		Bottom-bearing	
		Column-stabilized unit	Other	Column-stabilized unit	Other	Submersible	Self-elevated unit
.1.1	X	X	X	X	X	X	X
.1.2	X	X	X	X	[3]	[2]	[2]
.1.3	X	X	X	X	X	[2]	[2]
.1.4	X	X	X	X	X	X	X
.1.5	X	X	X	X	X	X	X
.1.6	X[1]	X[1]	X[1]		X	X	
.1.7							X
.2.1	X	X	X	X	X	X	X
.2.2	X[1]	X[1]	X[1]		X	X	
.2.3	X[1]	X[1]	X[1]		X	X	
.2.4	X	X	X	X	X	X	X
.2.5	X	X	X				
.3.1	X	X	X	X[3]	[3]	[2,3]	[2,3]
.3.2	X	X	X	X[3]	[3]	[2,3]	[2,3]
.3.3	X	X	X	X	X[3]	[2]	[2]
.4 to .11	X	X	X	X	X	X	X

[1] Except for units in dynamic positioning mode.
[2] Bottom-bearing units whilst afloat.
[3] Depends on unit type and circumstances of operation (to be determined by the Administration).

Table 6.2

Specification of minimum standard of competence for offshore installation manager

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Plan and ensure safe ballasting and deballasting operations and accounting of changes in deck loads	Knowledge of, and ability to apply, relevant international and national standards concerning stability Use of loading stability information which may be contained in or derived from stability and trim diagrams, operation manual, and/or computer-based loading and stability programs	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Ballasting and deballasting are planned and executed in accordance with established procedures Changes in deck loads are accounted for in accordance with established procedures
Operational control of trim, stability and stress	Understanding of fundamental principles of MOU construction, including principal structural members and required periodic inspections Basic knowledge of effects of welding, and effects of corrosion on the structure Understanding of fundamental principles and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability (afloat mode) Stability criteria for MOUs (static and dynamic), environmental limits and criteria for survival conditions Understanding of inclining experiment, deadweight survey, and their use Use of daily loading calculations Knowledge of the effect : .1 on trim and stability of MOU in event of damage to and consequent flooding of a compartment, and countermeasures to be taken (afloat mode) .2 of loading supplies and ballasting in order to keep the unit's stresses within acceptable limits .3 of mooring systems and mooring line failure .4 of pre-loading and leg stresses on self-elevating units .5 of loss of buoyancy	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	MOU structure, stability and stress conditions are maintained within safe limits at all times

Table 6.2 (continued)

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Maintain safety and security of MOU personnel and the operational condition of life-saving, fire-fighting and other safety systems	Knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea) as applicable to MOUs Organization of fire and abandon ship drills Maintenance of operational condition of life-saving, fire-fighting and other safety systems Actions to be taken to protect and safeguard all persons on board in emergencies, including evacuation Actions to limit damage following a fire, explosion, collision, or grounding Precautions to be taken before onset of heavy weather	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Procedures for monitoring fire-detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures Life-saving appliances and fire-fighting equipment are maintained in accordance with prescribed standards
Develop emergency and damage control plans and handle emergency situations	Preparation of contingency plans for response to emergencies Ship construction, including damage control Methods and aids for fire prevention, detection and extinction Functions and use of life-saving appliances Evacuation from MOU Precautions to be taken before onset of heavy weather	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Emergency procedures are in accordance with the established plans for emergency situations
Respond to emergencies	Knowledge of : .1 emergency procedures .2 the effect of trim and stability of flooding due to damage, fire-fighting , loss of buoyancy or other reasons and countermeasures to be taken Effectively communicate stability-related information	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Established procedures are followed during drills and emergencies Communications are clear and effective

Table 6.2 (continued)

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Maintain MOU safe for transit, station keeping, mooring and dynamic positioning conditions	Knowledge of: .1 the 1972 Collision Regulations, as amended .2 navigation and electronic navigational aids appropriate to the type of MOU .3 towing procedures, including recovery of tow .4 sea-bed composition and characteristics .5 behaviour of mooring systems and force distributions, including the effect of environmental conditions .6 consequences of mooring system failure .7 anchor placement and recovery, and working with anchor handling vessels .8 principles of dynamic positioning system, including capabilities and limitations of thrusters, power systems and maximum allowable position offsets (For Dynamic Position equipped vessels only)*	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Transit, station keeping, mooring and dynamic positioning operations are within safe limits at all times Communications are effective and comply with established procedures
Forecast weather and oceanographic conditions	Knowledge of : .1 characteristics of weather systems .2 ability to apply available meteorological information to ensure safety of MOU and , upon request, supply other vessels or aircraft with information .3 sources of weather information .4 the effects of weather on the MOU environmental limits	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	The likely weather conditions for a determined period are based on all available information Actions taken to maintain safety of navigation and operations minimize risk to safety of MOU
Plan and ensure safe transfer of personnel	Knowledge of : .1 precautions to be taken during transfer of personnel .2 use of the personnel basket .3 helicopter transfers .4 vessel transfers .5 effect of environmental conditions on method of personnel transfer	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Personnel transfers are conducted safely

* Resolution MSC.38(63), annex 2.

Table 6.2 (continued)

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Plan and ensure safe loading, stowage, securing and handling of supplies, including dangerous goods	Knowledge of : .1 the effect on trim and stability of cargoes and cargo operations .2 safe handling, stowage and care of equipment, supplies and dangerous goods .3 crane and lifting equipment, and their inspections .4 procedures for loading and discharge of helicopters and supply vessels .5 precautions during loading, and unloading, and use of dangerous, hazardous, or harmful goods	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	The likely weather conditions for a determined period are based on all available information Stowage and securing of cargoes and supplies ensures that stability and stress conditions remain within safe limits, and are in accordance with established guidelines and legislative requirements Information on dangers, hazards and special requirements is recorded in a suitable format for easy reference in the event of an incident
Prevention of pollution	Methods and aid to prevent pollution of the environment Knowledge of : .1 pollution prevention systems and controls .2 pollution control procedures, including the unit's MARPOL I/26 and article 3 of OPRC Convention Shipboard Oil Pollution Emergency Plan, MARPOL Annex V Waste Management Plan, and any plan dealing with dangerous/hazardous goods	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Operations are conducted without hazarding the environment through spills of oil or dangerous/hazardous goods, or garbage
Monitor and control safe working practices	Knowledge of safe working practices, such as: .1 occupational safety, health and hygiene .2 hazardous areas .3 permits to work .4 work over water .5 work in confined spaces Knowledge of personnel training, organization and communication Understanding and inspection of safety equipment Identify, evaluate, control new hazards through engineering controls or safe working practices	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Operations minimize hazards to personnel

Table 6.2 (continued)

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	Knowledge of international maritime law embodied in international agreements and conventions Regard should be paid to the following subjects: .1 certificates and other documents required to be carried on board MOUs by international conventions and/or agreements .2 responsibilities under the relevant requirements of the: - International Convention on Load Lines; - International Convention for the Safety of Life at Sea; - International Convention for the Prevention of Pollution from Ships; .3 maritime declarations of health and the requirements of the International Heath Regulations .4 responsibilities under international instruments affecting the safety of the MOU, visitors, crew and cargo .5 methods and aids to prevent pollution of the marine environment by MOUs .6 national legislation for implementing international agreements and conventions	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Procedures for monitoring operations and maintenance comply with legislative requirements Potential non-compliance is promptly and fully identified Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment
Monitor and control industrial operations impacting maritime safety	Knowledge and appreciation of the interrelationship between marine operations and specific industrial activities including, where appropriate, the following: .1 drilling and maintenance, where appropriate, of wells .2 construction and offshore maintenance and repair .3 production .4 accommodation support .5 lifting operations .6. pipe-laying .7 diving .8 fire-fighting support	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Industrial operations are carried out safely

Table 6.3
Specification of minimum standard of competence for barge supervisor

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Plan and ensure safe ballasting and deballasting operations and accounting of changes in deck loads	Knowledge of and ability to apply relevant international and national standards concerning stability Use of loading stability information as may be contained in or derived from stability and trim diagrams, operation manual, and/or computer-based loading and stability programs	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Ballasting and deballasting are planned and executed in accordance with established procedures Changes in deck loads are accounted for in accordance with established procedures
Operational control of trim, stability and stress	Understanding of fundamental principles of MOU construction, including principal structural members and required periodic inspections, watertight integrity and damage control Basic knowledge of effects of welding, and effects of corrosion on the structure Understanding of fundamental principles and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability Stability criteria for MOU (static and dynamic), environmental limits and criteria for survival conditions Understanding of inclining experiment, deadweight survey, and their use Use of daily loading calculations Knowledge of the effect of mooring systems and mooring line failure	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	MOU structure, stability and stress conditions are maintained within safe limits at all times

Table 6.3 (continued)

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Respond to emergencies	Knowledge of : .1 emergency procedures .2 the effect of trim and stability of flooding due to damage, fire-fighting, loss of buoyancy or other reasons and countermeasures to be taken Effectively communicate stability related and damage control information	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Established procedures are followed during drills and emergencies Communications are clear and effective
Seamanship	Knowledge of : .1 the 1972 Collision Regulations, as amended .2 navigation and electronic navigational aids appropriate to the type of MOU .3 towing procedures, including recovery of tow Proficiency in the following: .1 heavy weather .2 store and bulk liquid transfer .3 manoeuvring and positioning .4 anchor handling .5 dynamic positioning, if applicable Effectively communicate navigational and cargo handling information	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Transit, station keeping, mooring and dynamic positioning operations are within safe limits at all times Communications are effective and comply with established procedures
Plan and ensure safe loading, stowage, securing and handling of supplies, including dangerous goods	Knowledge of: .1 the effect on trim and stability of cargoes and cargo operations .2 safe handling, stowage and care of equipment, supplies and dangerous goods .3 crane and lifting equipment, and their inspections .4 procedures for loading and discharge of helicopters and supply vessels .5 precautions during loading, and unloading, and use of dangerous, hazardous, or harmful goods	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	The likely weather conditions for a determined period are based on all available information Stowage and securing of cargoes and supplies ensures that stability and stress conditions remain within safe limits, and are in accordance with established guidelines and legislative requirements Information on dangers, hazards and special requirements is recorded in a suitable format for easy reference in the event of an incident

Table 6.3 (continued)

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Monitor and control safe working practices	Knowledge of safe working practices, such as: .1 occupational safety, health and hygiene .2 hazardous areas .3 permits to work .4 work over water .5 work in confined spaces Knowledge of personnel training, organization and communication Understanding and inspection of safety equipment	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Operations minimize hazards to personnel
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	Knowledge of international maritime law embodied in international agreements and conventions Regard should be paid to the following subjects: .1 certificates and other documents required to be carried on board MOUs by international conventions and/or agreements .2 responsibilities under the relevant requirements of the: - International Convention on Load Lines; - International Convention for the Safety of Life at Sea; - International Convention for the Prevention of Pollution from Ships; .3 responsibilities under international instruments affecting the safety of the MOU, visitors, crew and cargo .4 methods and aids to prevent pollution of the marine environment by MOUs .5 national legislation for implementing international agreements and conventions	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Procedures for monitoring operations and maintenance comply with legislative requirements Potential non-compliance is promptly and fully identified Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment
Provide first aid to a casualty prior to transfer to medical facility	See table A-VI/4-1 of STCW Code	See table A-VI/4-1 of STCW Code	See table A-VI/4-1 of STCW Code

Table 6.4
Specification of minimum standard of competence for ballast control operators

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Plan and ensure safe ballasting and deballasting operations and accounting of changes in deck loads	Knowledge of and ability to apply relevant international and national standards concerning stability Use of loading stability information as may be contained in or derived from stability and trim diagrams, operations manuals, and/or computer-based loading and stability programs	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Ballasting and deballasting operations are planned and executed in accordance with established procedures Changes in deck loads are accounted for in accordance with established procedures
Operational control trim, stability and stress	Understanding of fundamental principles of ship construction and the theories and factors affecting trim and stability and the measures necessary to preserve trim and stability Stability criteria for MOUs, environmental limits and criteria for survival conditions Understanding the inclining experiment report and its use Use of daily loading calculations Dynamical stability Effect of mooring systems and mooring line failure	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation, formal instruction, simulator training, or examination	Stability and stress conditions are maintained within established limits at all times
Respond to emergencies	Knowledge of emergency procedures Knowledge of the effect on trim and stability of flooding due to damage, fire-fighting , loss of buoyancy or other reasons and countermeasures to be taken Effectively communicate stability-related information	Examination and assessment of evidence obtained from one or more of the following: in-service experience, direct observation during drills and exercises, formal instruction, simulator training, or examination	Established procedures are followed during drills and emergencies Communications are clear and effective
Prevention of pollution	Methods and aids to prevent pollution of the environment Knowledge of relevant international and national requirements, regard should be paid especially to: 1. certificates and other documents required by international conventions or national law, how they may be obtained, and their period of validity .2 responsibilities under relevant international agreements	Examination and assessment of evidence obtained from one or more of the following: in-service experience, formal instruction, or examination	Follows pollution prevention procedures established by international convention, national requirements and company policy

Table 6.5
Specification of minimum standard of competence for maintenance supervisors on non self-propelled units

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Use appropriate tools for fabrication and repair operations typically performed on MOUs	Characteristics and limitations of materials used in construction and repair Characteristics and limitations of processes used for fabrication and repair Properties and parameters considered in the fabrication and repair of systems and components Application of safe working practices in the workshop environment	Examination and assessment of evidence obtained from one or more of the following: workshop skills training, in-service experience, or examination	Identification of important parameters for fabrication of typical MOU-related components is appropriate Selection of material is appropriate Fabrication is to designated tolerances Use of equipment and machine tools is appropriate and safe
Use hand tools and measuring equipment for dismantling, maintenance, repair and re-assembly of on-board plant and equipment	Design characteristics and selection of materials in construction of equipment Interpretation of machinery drawings and handtools Operational characteristics of equipment and systems	Examination and assessment of evidence obtained from one or more of the following: workshop skills training, in-service experience, or examination	Safety procedures followed are appropriate Selection of tools and spare gear is appropriate Dismantling, inspecting, repairing and reassembling equipment is in accordance with manuals and good practice Re-commissioning and performance testing in accordance with manuals and good practice
Use hand tools, electrical and electronic measuring and test equipment for fault-finding, maintenance and repair operations	Safety requirements for working on electrical systems Construction and operational characteristics of on-board AC and DC electrical systems and equipment Construction and operation of electrical test and measuring equipment	Examination and assessment of evidence obtained from one or more of the following: workshop skills training, in-service experience, or examination	Implementation of safety procedures is satisfactory Selection and use of test equipment is appropriate and interpretation of results is accurate Selection of procedures for the conduct of repair and maintenance is in accordance with manuals and good practice Commissioning and performance testing of equipment and systems brought back into service after repair is in accordance with manuals and good practice

Table 6.5 (continued)

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Operate alternators, generators and control systems	Generating plant Appropriate basic electrical knowledge and skills Preparing, starting, coupling and charging over alternators or generators Location of common faults and action to prevent damage Control systems Location of common faults and action to prevent damage	Examination and assessment of evidence obtained from one or more of the following: in service experience, simulator training, laboratory equipment training, or examination	Operations are planned and carried out in accordance with established rules and procedures to ensure safety of operations
Maintain engineering systems, including control systems	Appropriate basic mechanical knowledge and skills Safe isolation of electrical and other types of plant and equipment required before personnel are permitted to work on such plant or equipment Undertake maintenance and repair to plant and equipment	Examination and assessment of evidence obtained from one or more of the following: in service experience, simulator training, laboratory equipment training, or examination	Isolation, dismantling and reassembly of plant and equipment is in accordance with accepted practices and procedures. Action taken leads to the restoration of plant by the method most suitable and appropriate to the prevailing circumstances and conditions
Operate, monitor and evaluate engine and machinery performance and capacity	Operation and maintenance of: engines auxiliary machinery including pumping and piping systems, associated control systems and, if appropriate, jacking systems	Examination and assessment of evidence obtained from one or more of the following: in-service experience, formal instruction, simulator training, or examination	Action during drills or in response to emergencies conform to established procedures
Detect and identify the cause of machinery malfunctions and correct faults	Detection of machinery malfunction and location of faults to prevent or minimize damage	Examination and assessment of evidence obtained from one or more of the following: in-service experience, formal instruction, simulator training, or examination	Methods of comparing actual operating conditions are in accordance with recommended practices and procedures Actions and decisions are in accordance with recommended operating specifications and limitations

Table 6.5 (continued)

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Organize safe maintenance and repair procedures	Marine engineering practice Organizing and carrying out safe maintenance and repair procedures	Examination and assessment of evidence obtained from one or more of the following: in-service experience, formal instruction, simulator training, or examination	Maintenance activities are correctly planned and carried out in accordance with technical, legislative, safety and procedural specifications Appropriate plans, specifications materials and equipment are available and used for maintenance and repair Actions taken lead to the restoration of the plant by the most suitable method
Operate and maintain survival craft and launching systems and systems for fire prevention, detection and extinction	Maintenance of operational condition of survival craft and launching systems and systems for fire prevention, detection and extinction Actions taken to protect the unit and its personnel and limit damage following fire, explosion, collision or grounding	Examination and assessment of evidence obtained from one or more of the following: in-service experience, formal instruction, simulator training, or examination	Procedures for maintaining equipment ensure that equipment remains operational Actions taken in response to drills or emergencies follow established procedures

Table 6.5 (continued)

Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Prevention of pollution	Methods and aids to prevent pollution of the environment Knowledge of relevant international and national requirements, regard should be paid especially to: 1. certificates and other documents required by international conventions or national law, how they may be obtained, and their period of validity .2 responsibilities under relevant international agreements	Examination and assessment of evidence obtained from one or more of the following: in-service experience, formal instruction, simulator training, or examination	Follows pollution prevention procedures established by international conventions, national requirements and company policy
Ensure safe working practices	Safe working practices	Examination and assessment of evidence obtained from one or more of the following: in-service experience, formal instruction, simulator training, or examination	Working practices are in accordance with legislative requirements, codes of practice, environmental concerns, and company policies Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times

APPENDIX

GUIDANCE ON DRILLS AND EXERCISES

1 INTRODUCTION

1.1 This guidance is offered to aid in the development of an effective programme of drills and exercises for training and assessment of basic offshore emergency response. Drills and exercises are a primary means of testing and maintaining the emergency response arrangements of a mobile offshore unit (MOU). They also are an integral part of the system of providing basic safety training and other emergency response training to individuals and evaluating individual skills and knowledge in these areas.

1.2 Definitions

1.2.1 **Exercise** means a test of the emergency response arrangements under as near realistic conditions as possible on the MOU and involves all unit personnel.

1.2.2 **Drill** means a form of exercise which provides the opportunity to practice elements of the system. Drills are carried out under realistic conditions while allowing for instruction and training, e.g. breathing apparatus drills for the fire team, casualty handling for first-aid and stretcher teams, etc.

1.3 Drill and exercise programme

1.3.1 The drill and exercise programme should be an integral part of the unit's training programme. The design of a programme of drills and exercises can be considered on four levels.

Offshore/onshore exercises

1.3.2 Since many MOUs rely on shore-based support during response to major emergencies, these exercises are intended to test and develop communications and relationships between the unit and onshore emergency support teams. To maximize the benefits of such exercises, considerable co-ordination and planning may be required.

1.3.3 Arrangements should be made for independent observers, i.e., persons not involved in the actual exercise, to monitor both the offshore and onshore elements of the exercise and provide objective assessment and feedback.

1.3.4 Offshore/onshore exercises should be held at such intervals as to allow each OIM to participate in at least one such exercise every 3 years, i.e., the nominal frequency should be approximately 18 months interval.

Offshore exercises

1.3.5 These exercises are intended to test and develop communications and relationships for those on board the unit and for the unit's emergency support teams. They are also used to test and develop integrated emergency response arrangements for units engaged in combined operations.

1.3.6 When possible, arrangements should be made for independent observers, i.e., persons not involved in the actual exercise, to monitor the exercise and provide objective assessment and feedback.

Routine drills

1.3.7 A programme of routine drills is established to provide systematic practical training and experience in the elements of basic offshore emergency response. The programme should ensure that all the elements of required individual and team competence in basic offshore emergency preparedness training are regularly tested. Various elements can be tested during a drill.

1.3.8 Consideration should also be given to carrying out drills in order to provide training and heighten awareness prior to conducting non-routine or hazardous operations.

Assessment drills

1.3.9 A programme of assessment drills should be specifically established to provide for periodic and systematic demonstration of individual competence in the elements of basic safety training. Other elements of emergency response as may be determined to be appropriate for the unit may also be assessed.

1.4 Evaluation and assessment

1.4.1 Assessors should be assigned for each exercise and drill. If practicable, assessors should not be active participants in the drill or exercise, so that they can dedicate their time and attention to training and assessment.

1.4.2 All assessors should:

.1 have an appropriate level of knowledge and understanding of the competence to be assessed;

.2 be qualified in the tasks for which the assessment is being made; and

.3 have received appropriate guidance in assessment methods and practice and have gained practical assessment experience.

1.4.3 Arrangements should be made periodically which permit the OIM, or other supervisors, to be released from their normal emergency response role to monitor the key aspects of the unit's drills.

1.4.4 As a matter of routine, personnel with key emergency response roles should monitor the performance in their areas and ensure that appropriate action is taken to resolve any problems which are identified.

1.4.5 Drills should be structured so as to also demonstrate that associated emergency appliances and equipment are complete, in good working order and ready for immediate use.

1.4.6 A debriefing should be held after each drill exercise for training purposes and to assist in the overall assessment and evaluation.

1.5 Records and follow-up

1.5.1 Records, similar to the samples provided in attachment 1, should be maintained describing the scope of all drills which are conducted. More detailed reports may be appropriate for exercises.

1.5.2 Records should include any recommendations for improvements or modification which were identified with respect to emergency procedures, drill or exercise procedures, or equipment.

1.5.3 A record, similar to the sample provided in attachment 2, should be maintained of all assessment drills. When assessment drills are completed, suitable endorsements should also be made in individuals' training record books, training passports or other appropriate records.

1.5.4 A system should be established to ensure that all recommendations are properly considered and appropriate action taken.

1.6 Special precautions

1.6.1 For units that may be working with open wells, the status of the well and the safety of well operations should be given special consideration.

1.6.2 For units involved in combined operations, the effect of the drill or exercise on the other unit or facility should be considered. Nevertheless, the development of drill and exercise scenarios addressing combined operations is encouraged.

2 OFFSHORE EXERCISES

2.1 Exercise scenarios

Offshore exercises should be varied and challenging. Scenario details should be adequate to allow for a realistic exercise but not so prescriptive as to prevent variations and an injection of the unexpected into the exercise. An example of an exercise scenario is contained in attachment 3.

2.2 Planning of exercises

2.2.1 Exercises should be carried out at a time which minimizes disruption to operations without detriment to the exercise objectives.

2.2.2 There should be elements of surprise in the timing of the exercise. However, this needs to be balanced with safety and other operational requirements.

2.2.3 Where possible, offshore exercises should be held when there are onshore management or other suitably qualified personnel available to assist in monitoring the exercise and to input realistic variations to the scenarios at random and unexpectedly. If there are no persons with the necessary knowledge or experience of emergency exercise available then the OIM, or other supervisors, should fulfil this function.

2.2.4 Offshore exercises should be held at approximately 3 month intervals.

3 ROUTINE DRILLS

3.1 Drill scenarios

3.1.1 Routine drills are a means of practising emergency response, building teamwork, and providing training in basic safety and other elements of emergency response.

3.1.2 It is essential that routine drills do not become repetitive. Drills should be developed from a selection of the elements relevant to current or planned operations so as to provide variety and a challenge to the personnel of the unit.

3.1.3 All the required elements of basic safety training should be covered by the drill programme within any 3 month period. Additional emergency response elements may be added to address unit-specific concerns such as combined operations (assistance to others), helideck fire fighting, etc. Possible elements for developing routine drills are provided in attachment 4.

3.1.4 Unless a drill is designed to meet a specific training purpose, e.g. breathing apparatus procedures for fire team members, then each drill should include the mustering of all personnel to both their normal and alternative muster points.

3.1.5 For units operating (or scheduled to operate) in areas where hydrogen sulphide (H_2S) is a concern, the H_2S mustering procedures should be included.

3.2 Frequency

3.2.1 One abandon unit and one fire drill should be held every week. Drills should be so arranged that all regularly assigned personnel participate in one abandon unit and one fire drill at least once a month.. A drill should take place within 24 hours after a personnel change if more than 25% of the personnel have not participated in abandon unit and fire drills on board that particular unit in the previous month.

3.2.2 Other drills should be held as frequently as required to ensure that the required levels of competence in basic safety and emergency response preparedness are achieved.

4 ASSESSMENT DRILLS

4.1 Assessment drills are designed for the specific purpose of providing a means for an individual to demonstrate that he or she has achieved the required standard of competence in basic safety (i.e., personal survival, fire fighting, elementary first aid, and personal safety) and other emergency response elements determined to be appropriate for the unit.

4.2 Personnel not regularly assigned to a MOU may experience difficulty in documenting that they have achieved the required standard of competence in basic safety under realistic conditions (i.e., they may have only been assessed during shore-based training). Accordingly, installation managers should be encouraged to include such personnel in assessment drills when they are conducted.

4.3 Because of the importance attached to proficiency in basic safety, individuals failing to demonstrate the required level of proficiency should be immediately provided with remedial training.

4.4 Guidance on assessment drills is provided in attachment 5.

ATTACHMENT 1

SAMPLE DRILL / EXERCISE RECORD

Unit: **Date:**

Brief description of drill / exercise scenario: (e.g. Fire in pantry, muster, etc.)

Emergency response elements exercised:

1 Emergency control centre
- Command
- Communications
- Information availability
- Establishing alternate location

2 Mustering
- Accounting for personnel
- Moving and controlling personnel
- Communications

3 Evacuation/escape
- Survival craft boarding
- Survival craft launching
- Escape systems
- Protective equipment
- Communications

4 Fire teams
- Leadership
- Communications
- Fire containment and extinction
- Dewatering
- Breathing apparatus procedures
- Search and rescue
- Casualty handling

5 First aid
- Casualty management
- Casualty handling
- Casualty evacuation

6 Well control (if applicable)
- Trip drills
- Kick drills
- Well control
- Well kill
- Shallow gas

7 Helideck (if installed)
- Leadership
- Fire monitor and rescue equipment
- Casualty handling

8 Collision/flooding
- Manual operation of valves
- Preserving watertight integrity
- Emergency dewatering

9 Man overboard
- Rescue boat launching
- Standby vessel communication

10 Severe storm
- Securing equipment on deck
- Preserving watertight integrity

11 Hydrogen sulphide

12 Diving operations (if applicable)
- On-board emergency while divers submerged
- Emergencies involving divers

13 Assistance to others

Comments on performance:

Recommendations for improvements:

Signed:_____ **Position:**_____

Date: _____

ATTACHMENT 2

ASSESSMENT DRILL RECORD SHEET
(A separate record sheet should be completed for each drill)

Unit name: **Location:**

Date of drill:

Drill No: **Drill title:**

Candidates assessed

Name:	**Employer:**	**Training passport or record No:**	**Performance:**

Assessor:

Name: **Position:**

I confirm that I have assessed the performance of the above candidates against the drill objectives and found it to be satisfactory. I have endorsed their individual records accordingly.

Signature: **Date:**

OIM:

I confirm that the above drill and assessment was carried out.

Signature: **Date:**

ATTACHMENT 3

SAMPLE OFFSHORE EMERGENCY RESPONSE EXERCISE SCENARIO

Objective:

To demonstrate the unit's ability to respond to a major incident which escalates to the point that evacuation is appropriate.

Outline scenario:

- Exercise commences with a manually initiated alarm and a report of fire, collision, loss of well control or other escalating event.
- Emergency response procedures are put into action.
- Person or persons are identified as missing.
- The event escalates until the response teams conclude containment is no longer possible.
- Abandon unit procedures are initiated.
- Personnel proceed to controlled evacuation or escape points, as directed.

Expected response:

- Personnel make job sites safe and proceed to assigned muster areas.
- On units engaged in well operations, the drill crew closes the well and makes it safe.
- The OIM proceeds to designated emergency control point and takes control.
- Standby vessel, emergency response organizations, and onshore base(s) are notified of exercise, as appropriate.
- Mustering, identify missing person or persons and where last seen.
- Fire teams, appropriately clothed, run hoses and commence search of area.
- Where safe and appropriate to do so, fixed fire-fighting systems are activated and performance verified.
- Casualties are located and are moved to a safe area by first aid responders and/or the stretcher bearers.
- Fire escalates and personnel ordered to preferred evacuation points.
- Fire teams are withdrawn and abandon unit alarm is initiated.

Possible scenario variables: (Not all will be used in a single exercise)

- Communications failure between fire team leader, muster checkers and/or OIM.
- OIM incapacitated at any stage during the exercise.
- Other key personal incapacitated.
- Routes to muster areas and/or evacuation points are blocked.
- Critical equipment fails, e.g., loss of a fire pump.
- Search teams are trapped.
- Casualties in other areas require immediate medical attention.

ATTACHMENT 4

POSSIBLE ELEMENTS OF EMERGENCY RESPONSE FOR DEVELOPING ROUTINE DRILLS

1 Emergency control centre
- Command
- Communications
- Information availability
- Establishing alternate location

2 Mustering
- Accounting for personnel
- Moving and controlling personnel
- Communications

3 Evacuation/Escape
- Survival craft boarding
- Survival craft launching
- Escape systems
- Protective equipment
- Communications

4 Fire teams
- Leadership
- Communications
- Fire containment and extinction
- Dewatering
- Breathing apparatus procedures
- Search and rescue
- Casualty handling

5 First aid
- Casualty management
- Casualty handling
- Casualty evacuation

6 Well control (where applicable)
- Trip drills
- Kick drills
- Well control
- Well kill
- Shallow gas

7 Helideck (if installed)
- Leadership
- Fire monitor and rescue equipment
- Casualty handling

8 Collision/Flooding
- Manual operation of valves
- Preserving watertight integrity
- Emergency dewatering

9 Man overboard
- Rescue boat launching
- Standby vessel communication

10 Severe storm
- Securing equipment on deck
- Preserving watertight integrity

11 Hydrogen sulphide

12 Diving operations (if applicable)
- On-board emergency while divers are underwater
- Emergencies involving divers

13 Assistance to others (particularly for combined operations)

ATTACHMENT 5

STANDARD ASSESSMENT DRILLS

Mustering

Drill objectives: Candidates are to demonstrate to the satisfaction of the assessor that on hearing/observing alarms they:

- correctly identify the alarm, appropriately make safe their work area, and proceed to their assigned muster area;
- arrive at the muster area suitably clothed, with the required personal protective equipment, and with such other equipment as may be assigned on the muster list or station bill;
- follow the instructions and directions of the muster checker or other person in control; and
- can don the personal protective equipment.[1]

Drill conditions: This drill can form part of the unit's routine drill programme provided that:

- the assessor is in a position to observe the candidates at their muster area;
- the drill includes transferring the group from the muster area to the point of evacuation, or escape, if different from the muster area; and
- persons being assessed demonstrate the ability to don all appropriate personal protective equipment.[2]

Assessment frequency: Personnel should be assessed performing this drill at 21 to 27 month (nominal 24 month) intervals.

Assessment process: Prior to the commencement of the drill the candidates for assessment should be identified so as to be recognizable by the assessor. The assessor will evaluate each candidate in achieving the drill objectives. In the event that the assessor is not satisfied with a candidate's performance, the candidate's supervisor or employer should be informed.

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[1] Including both lifejackets and immersion suits if operating in an area where immersion suits are provided. If sealed immersion suits are provided, individuals may demonstrate donning procedures on suits provided for demonstration and drill purposes.

[2] For assessment purposes, this part of the drill may take place at the end of the routine drill when other personnel have stood down.

Survival craft boarding procedures

CAUTION - PRECAUTIONS SHOULD BE TAKEN TO PROTECT AGAINST INADVERTENT ACTIVATION OF THE SURVIVAL CRAFT'S RELEASING GEAR DURING THIS DRILL

Drill objectives: By the end of the drill candidates will demonstrate to the satisfaction of the drill assessor that they can:

- board a survival craft in accordance with appropriate procedures;
- secure themselves in the survival craft; and
- assist others in the survival craft.

Drill conditions: This drill can form part of the unit's routine drill programme provided that the assessor is in a position to observe candidates throughout the drill.

Assessment frequency: Personnel should be assessed performing this drill at 21 to 27 month (nominal 24 month) intervals for each type of survival craft installed.

Assessment process: Prior to the commencement of the drill the candidates for assessment should be identified so as to be recognizable by the assessor. The assessor will ensure that each candidate has achieved the drill objectives. In the event that the assessor is not satisfied with a candidate's performance, the candidate's supervisor or employer should be informed.

Survival craft start and launching procedures

CAUTION - PRECAUTIONS SHOULD BE TAKEN TO PROTECT AGAINST INADVERTENT ACTIVATION OF THE SURVIVAL CRAFT'S RELEASING GEAR DURING THIS DRILL

Drill objectives: By the end of the drill, candidates will demonstrate to the satisfaction of the drill assessor that they:

- can secure the survival craft for launch;
- can start the survival craft using both primary and back-up systems;
- are familiar with the procedures for launching and releasing the survival craft;
- know which way to steer the survival craft; and
- are familiar with the essential equipment within the survival craft[1].

Drill conditions: This drill will not normally form part of the unit's routine drill programme. This drill should be carried out at the end of a routine drill or as a separate event. The number of personnel involved in the drill should be restricted, nominally to a maximum of six.

Assessment frequency: Personnel should be assessed performing this drill at 21 to 27 month (nominal 24 month) intervals.

Assessment process: The assessor should ask the candidate to secure the survival craft ready for launching and then ask them to talk through the start-up launch and steering procedures to achieve the drill objectives. In the event that the assessor is not satisfied with a candidate's performance, the candidate's supervisor or employer should be informed.

[1] Care should be exercised to prevent the inadvertent broadcast of distress calls when handling radios, EPIRBs, etc.

Escape drill

Drill objectives: By the end of the drill candidates will demonstrate to the satisfaction of the drill assessor that they know:

- the locations of the unit's escape and emergency communications equipment; e.g. liferafts, knotted ropes, scramble nets, other personnel escape systems and EPIRBs;
- how to deploy the equipment;
- the techniques for using the equipment[1]; and
- the precautions for jumping into the water from a height.

Drill conditions: This drill will not normally form part of the unit's routine drill programme. This drill should be carried out at the end of a routine drill or as a separate event. When used for assessment purposes the number of participants on the drill should be restricted to a maximum of six.

Assessment frequency: Personnel should be assessed performing this drill at 21 to 27 month (nominal 24 month) intervals.

Assessor: The assessment will be carried out by a supervisor who has the necessary knowledge and skills.

Assessment Process: The assessor should ask candidates to take them to where the escape systems are located. The candidate should then be asked to talk through the procedures for deploying the equipment, outline how the equipment should be used and, when appropriate, demonstrate its use. In the event that the assessor is not satisfied with a candidate's performance, the candidate's supervisor or employer should be informed.

[1] Care should be exercised to prevent inadvertent broadcast of distress calls when handling radios, EPIRBs, etc.

First aid drill

Drill objectives: By the end of the drill candidates will demonstrate to the satisfaction of the drill assessor that they:

- can take the basic precautions to maintain an airway;
- understand and can apply basic cardio-pulmonary resuscitation (CPR);
- can take necessary precautions to control bleeding; and
- know the actions to take to assist a hypothermia victim.

Drill conditions: This drill should be carried out with a maximum of six candidates in controlled conditions. If available, suitable aids should be used to assist candidates to demonstrate their skills to the satisfaction of the assessor.

Assessment frequency: Personnel should be assessed performing this drill at 21 to 27 month (nominal 24 month) intervals.

Assessment Process: The assessor should take the candidates through the basic requirements of first aid, ask questions of the group, and ask for demonstrations of the various techniques. A first aid mannequin should be available for these demonstrations. In the event that the assessor is not satisfied with a candidate's performance, the candidate's supervisor or employer should be informed.

Fire drill

Drill objectives: By the end of the drill candidates will demonstrate to the satisfaction of the drill assessor that they:

- understand the elements of fire and explosion, types and sources of ignition and classification of fire and appropriate extinguishing agents;
- know the onboard fire-fighting organization and their individual responsibilities;
- can locate fire-alarms, fire-fighting equipment and emergency escape routes;
- can take the necessary actions upon discovery of smoke or fire;
- know the appropriate actions to take to exit a smoke-filled space;
- can properly use escape breathing apparatus, if provided; and
- can properly use equipment commonly used to extinguish small fires.

Drill conditions: This drill should be carried out with a maximum of six candidates in controlled conditions. Actual use of equipment is encouraged if it can be done safely.

Assessment frequency: Personnel should be assessed performing this drill at 21 to 27 month (nominal 24 month) intervals.

Assessment process: The assessor should examine the candidates in their basic knowledge of fire theory, on-board fire-fighting organization and individual responsibilities. Candidates should be asked to individually demonstrate and walk through the actions they would take upon discovery of smoke or fire.

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INTERNATIONAL MARITIME ORGANIZATION

IMO

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ASSEMBLY
21st session
Agenda item 9

A 2/Res.893
4 February 2000
Original: ENGLISH

RESOLUTION A.893(21)
adopted on 25 November 1999

GUIDELINES FOR VOYAGE PLANNING

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO section A-VIII/2, Part 2 (Voyage planning) of the Seafarers' Training, Certification and Watchkeeping Code,

RECALLING FURTHER the essential requirements contained in the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers and the International Convention for the Safety of Life at Sea concerning voyage planning, including those relating to officers and crew, shipborne equipment, and safety management systems,

RECOGNIZING the essential importance for safety of life at sea, safety of navigation and protection of the marine environment of a well planned voyage, and therefore the need to update the 1978 Guidance on voyage planning issued as SN/Circ.92,

NOTING the request of the Assembly in resolution A.790(19) that the Maritime Safety Committee consider the issue of voyage planning in conjunction with its review of the Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes in Flasks on Board Ships (INF Code), and the Committee's decision that consideration of the issue of voyage planning should not be restricted to vessels carrying materials subject to the INF Code but should apply to all ships engaged on international voyages,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Safety of Navigation at its forty-fifth session:

1. ADOPTS the Guidelines for voyage planning set out in the Annex to the present resolution;

2. INVITES Governments to bring the annexed Guidelines to the attention of masters of vessels flying their countries' flag, shipowners, ship operators, shipping companies, maritime pilots, training institutions and all other parties concerned, for information and action as appropriate;

3. REQUESTS the Maritime Safety Committee to keep the said Guidelines under review and to amend them as appropriate.

ANNEX

DRAFT GUIDELINES FOR VOYAGE PLANNING

1 Objectives

1.1 The development of a plan for voyage or passage, as well as the close and continuous monitoring of the vessel's progress and position during the execution of such a plan, are of essential importance for safety of life at sea, safety and efficiency of navigation and protection of the marine environment.

1.2 The need for voyage and passage planning applies to all vessels. There are several factors that may impede the safe navigation of all vessels and additional factors that may impede the navigation of large vessels or vessels carrying hazardous cargoes. These factors will need to be taken into account in the preparation of the plan and in the subsequent monitoring of the execution of the plan.

1.3 Voyage and passage planning includes appraisal, i.e. gathering all information relevant to the contemplated voyage or passage; detailed planning of the whole voyage or passage from berth to berth, including those areas necessitating the presence of a pilot; execution of the plan; and the monitoring of the progress of the vessel in the implementation of the plan. These components of voyage/passage planning are analysed below.

2 Appraisal

2.1 All information relevant to the contemplated voyage or passage should be considered. The following items should be taken into account in voyage and passage planning:

.1 the condition and state of the vessel, its stability, and its equipment; any operational limitations; its permissible draught at sea in fairways and in ports; its manoeuvring data, including any restrictions;

.2 any special characteristics of the cargo (especially if hazardous), and its distribution, stowage and securing on board the vessel;

.3 the provision of a competent and well-rested crew to undertake the voyage or passage;

.4 requirements for up-to-date certificates and documents concerning the vessel, its equipment, crew, passengers or cargo;

.5 appropriate scale, accurate and up-to-date charts to be used for the intended voyage or passage, as well as any relevant permanent or temporary notices to mariners and existing radio navigational warnings;

.6 accurate and up-to-date sailing directions, lists of lights and lists of radio aids to navigation; and

.7 any relevant up-to-date additional information, including:

.1 mariners' routeing guides and passage planning charts, published by competent authorities;

.2 current and tidal atlases and tide tables;

.3 climatological, hydrographical, and oceanographic data as well as other appropriate meteorological information;

.4 availability of services for weather routeing (such as that contained in Volume D of the World Meteorological Organization's Publication No. 9);

.5 existing ships' routeing and reporting systems, vessel traffic services, and marine environmental protection measures;

.6 volume of traffic likely to be encountered throughout the voyage or passage;

.7 if a pilot is to be used, information relating to pilotage and embarkation and disembarkation including the exchange of information between master and pilot;

.8 available port information, including information pertaining to the availability of shore-based emergency response arrangements and equipment; and

.9 any additional items pertinent to the type of the vessel or its cargo, the particular areas the vessel will traverse, and the type of voyage or passage to be undertaken.

2.2 On the basis of the above information, an overall appraisal of the intended voyage or passage should be made. This appraisal should provide a clear indication of all areas of danger; those areas where it will be possible to navigate safely, including any existing routeing or reporting systems and vessel traffic services; and any areas where marine environmental protection considerations apply.

3 Planning

3.1 On the basis of the fullest possible appraisal, a detailed voyage or passage plan should be prepared which should cover the entire voyage or passage from berth to berth, including those areas where the services of a pilot will be used.

3.2 The detailed voyage or passage plan should include the following factors:

.1 the plotting of the intended route or track of the voyage or passage on appropriate scale charts: the true direction of the planned route or track should be indicated, as well as all areas of danger, existing ships' routeing and reporting systems, vessel traffic services, and any areas where marine environmental protection considerations apply;

.2 the main elements to ensure safety of life at sea, safety and efficiency of navigation, and protection of the marine environment during the intended voyage or passage; such elements should include, but not be limited to:

.1 safe speed, having regard to the proximity of navigational hazards along the intended route or track, the manoeuvring characteristics of the vessel and its draught in relation to the available water depth;

.2 necessary speed alterations en route, e.g., where there may be limitations because of night passage, tidal restrictions, or allowance for the increase of draught due to squat and heel effect when turning;

.3 minimum clearance required under the keel in critical areas with restricted water depth;

.4 positions where a change in machinery status is required;

.5 course alteration points, taking into account the vessel's turning circle at the planned speed and any expected effect of tidal streams and currents;

.6 the method and frequency of position fixing, including primary and secondary options, and the indication of areas where accuracy of position fixing is critical and where maximum reliability must be obtained;

.7 use of ships' routeing and reporting systems and vessel traffic services;

.8 considerations relating to the protection of the marine environment; and

.9 contingency plans for alternative action to place the vessel in deep water or proceed to a port of refuge or safe anchorage in the event of any emergency necessitating abandonment of the plan, taking into account existing shore-based emergency response arrangements and equipment and the nature of the cargo and of the emergency itself.

3.3 The details of the voyage or passage plan should be clearly marked and recorded, as appropriate, on charts and in a voyage plan notebook or computer disk.

3.4 Each voyage or passage plan as well as the details of the plan, should be approved by the ships' master prior to the commencement of the voyage or passage.

4 Execution

4.1 Having finalized the voyage or passage plan, as soon as time of departure and estimated time of arrival can be determined with reasonable accuracy, the voyage or passage should be executed in accordance with the plan or any changes made thereto.

4.2 Factors which should be taken into account when executing the plan, or deciding on any departure therefrom include:

.1 the reliability and condition of the vessel's navigational equipment;

.2 estimated times of arrival at critical points for tide heights and flow;

.3 meteorological conditions, (particularly in areas known to be affected by frequent periods of low visibility) as well as weather routeing information;

.4 daytime versus night-time passing of danger points, and any effect this may have on position fixing accuracy; and

.5 traffic conditions, especially at navigational focal points.

4.3 It is important for the master to consider whether any particular circumstance, such as the forecast of restricted visibility in an area where position fixing by visual means at a critical point is an essential feature of the voyage or passage plan, introduces an unacceptable hazard to the safe conduct of the passage; and thus whether that section of the passage should be attempted under the conditions prevailing or likely to prevail. The master should also consider at which specific points of the voyage or passage there may be a need to utilize additional deck or engine room personnel.

5 Monitoring

5.1 The plan should be available at all times on the bridge to allow officers of the navigational watch immediate access and reference to the details of the plan.

5.2 The progress of the vessel in accordance with the voyage and passage plan should be closely and continuously monitored. Any changes made to the plan should be made consistent with these Guidelines and clearly marked and recorded.

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INTERNATIONAL MARITIME ORGANIZATION

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ASSEMBLY
25th session
Agenda item 9

A 25/Res.999
3 January 2008
Original: ENGLISH

RESOLUTION A.999(25)

Adopted on 29 November 2007
(Agenda item 9)

GUIDELINES ON VOYAGE PLANNING FOR PASSENGER SHIPS OPERATING IN REMOTE AREAS

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO regulation 6 of chapter V of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, on the Ice Patrol Service, including the Appendix to chapter V on Rules for the management, operation and financing of the North Atlantic Ice Patrol,

RECALLING FURTHER resolution A.893(21) on *Guidelines for voyage planning*,

NOTING that the Maritime Safety Committee, at its seventy-third session, agreed to enhance the safety of passenger ships from a holistic perspective, including consideration of concerns related to operations in remote areas,

NOTING ALSO that the Maritime Safety Committee, at its seventy-sixth session, and the Marine Environment Protection Committee, at its forty-eighth session, approved the "Guidelines for ships operating in Arctic ice-covered waters", which were subsequently issued as MSC/Circ.1056 – MEPC/Circ.399,

RECOGNIZING the need to develop guidelines to supplement resolution A.893(21), particularly for passenger ships operating in remote areas, in order to prevent incidents of groundings and collisions, and thereby enhance safety of life at sea,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its eighty-first session:

1. ADOPTS the "Guidelines on voyage planning for passenger ships operating in remote areas", set out in the annex to the present resolution;

2. INVITES Governments to bring the annexed guidelines to the attention of masters of ships entitled to fly the flag of their States, shipowners, ship operators and managers, shipping companies, maritime pilots, training institutions, tour operators, ice-patrol and ice-breaking services and all other parties concerned, for information and action as appropriate;

3. REQUESTS the Maritime Safety Committee to keep the above-mentioned guidelines under review and to amend them as appropriate.

ANNEX

GUIDELINES ON VOYAGE PLANNING FOR PASSENGER SHIPS OPERATING IN REMOTE AREAS

1 Introduction

1.1 The growing popularity of ocean travel for passengers and the desire for exotic destinations have led to increasing numbers of passenger ships operating in remote areas. When developing a plan for voyages to remote areas, special consideration should be given to the environmental nature of the area of operation, the limited resources, and navigational information.

1.2 Passenger ships operating in remote Arctic ice-covered waters should also refer to MSC/Circ.1056 – MEPC/Circ.399 for recommended construction provisions, equipment recommendations, and operational guidelines.

1.3 Guidance on voyage planning is given in resolution A.893(21). Passenger ships operating in remote areas should include the following additional factors in their voyage planning.

2 Appraisal

2.1 The detailed voyage and passage plan should include the following factors:

.1 the source, date and quality of the hydrographic data on which the charts to be used are based;

.2 limitations on available maritime safety information (MSI) data and Search and Rescue resources;

.3 availability or lack of aids to navigation; and

.4 places of refuge.

2.2 In addition, the detailed voyage and passage plan for ships operating in Arctic or Antarctic waters should include the following factors:

.1 knowledge of ice and ice formations, in order to be able to navigate in ice, and how environmental conditions relating to current, wind, calm weather, fog and different seasons affect the ice and navigation in ice;

.2 current information on the extent and type of ice and icebergs in the vicinity of the intended route;

.3 statistical information on ice from former years;

.4 operational limitations in ice-covered waters; and

.5 availability and use of ice navigators.

3 Planning

3.1 The detailed voyage and passage plan should include the following factors:

.1 safe areas and no-go areas;

.2 surveyed marine corridors, if available; and

.3 contingency plans for emergencies in the event of limited support being available for assistance in areas remote from SAR facilities.*

3.2 In addition, the detailed voyage and passage plan for ships operating in Arctic or Antarctic waters should include the following factors:

.1 conditions when it is not safe to enter areas containing ice or icebergs because of darkness, swell, fog and pressure ice;

.2 safe distance to icebergs; and

.3 presence of ice and icebergs, and safe speed in such areas.

4 Execution

4.1 The detailed voyage and passage plan should report changes to a previously advised voyage and passage plan, to the relevant authorities.

4.2 In addition, the detailed voyage and passage plan for ships operating in Arctic or Antarctic waters should include the following factors:

.1 existing ice conditions; and

.2 measures to be taken before entering waters where ice may be present, e.g., an abandon ship drill and preparation of special equipment.**

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* Refer to "Enhanced contingency planning guidance for passenger ships operating in areas remote from SAR facilities" (MSC.1/Circ.1184).

** Refer to "Guidelines for ships operating in Arctic ice covered waters" (MSC/Circ.1056 – MEPC/Circ.399).

INTERNATIONAL MARITIME ORGANIZATION

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ASSEMBLY
27th session
Agenda item 9

A 27/Res.1047
20 December 2011
Original: ENGLISH

Resolution A.1047(27)

Adopted on 30 November 2011
(Agenda item 9)

PRINCIPLES OF MINIMUM SAFE MANNING

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization regarding the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO Article 28(a) of that Convention which requires the Maritime Safety Committee to consider, inter alia, the manning of seagoing ships from a safety standpoint,

NOTING that safe manning is a function of the number of qualified and experienced seafarers necessary for the safety and security of the ship, crew, passengers, cargo and property and for the protection of the marine environment,

RECOGNIZING the importance of the requirements of the pertinent IMO instruments as well as those adopted by ILO, ITU and WHO relevant to maritime safety and protection of the marine environment,

MINDFUL of the requirements of SOLAS regulation V/14, as amended, with respect to the issue of an appropriate safe manning document or equivalent as evidence of minimum safe manning,

ALSO MINDFUL of the requirements of SOLAS chapter XI-2 and the International Ship and Port Facility Security (ISPS) Code relating to the security of ships and port facilities,

BEING AWARE that the ability of seafarers to maintain observance of these requirements is dependent upon their continued efficiency through conditions relating to training, hours of work and rest, occupational safety, health and hygiene and the proper provision of food,

BELIEVING that international acceptance of broad principles as a framework for administrations to determine the safe manning of ships would materially enhance maritime safety, security and protection of the marine environment,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its eighty-eighth session,

1. ADOPTS the Principles of Minimum Safe Manning, consisting of *Guidelines for the application of principles of safe manning*; *Guidelines for determination of minimum safe*

manning; *Responsibilities in the application of principles of minimum safe manning*; *Guidance on contents and model form of minimum safe manning document* and *Framework for determining minimum safe manning*, as set out in Annexes 1, 2, 3, 4 and 5, respectively, to the present resolution;

2. RECOMMENDS that Governments, in establishing the minimum safe manning levels for ships flying their country's flag, observe the principles set out in Annex 1 and the procedures set out in Annex 5 and take into account the guidelines set out in Annexes 2 and 3;

3. URGES Governments to ensure that minimum safe manning documents contain, as a minimum, the information set out in Annex 4;

4. URGES FURTHER Governments, when exercising port State control functions under international conventions in force with respect to foreign ships visiting their ports, to regard compliance with minimum safe manning documents as evidence that such ships are safely manned;

5. REQUESTS the Maritime Safety Committee to keep this resolution under review and to amend its provisions as necessary;

6. REVOKES resolutions A.890(21) and A.955(23).

***

ANNEX 1

GUIDELINES FOR THE APPLICATION OF PRINCIPLES OF MINIMUM SAFE MANNING

1 Introduction

1.1 These Guidelines should be used in applying the principles of minimum safe manning set out in section 3 to ensure the safe operation of ships to which article III of the 1978 STCW Convention, as amended, applies, and the security of ships to which chapter XI-2 of the 1974 SOLAS Convention, as amended, applies, and for the protection of the marine environment.

1.2 The Administration may retain or adopt arrangements which differ from the provisions herein recommended and which are especially adapted to technical developments and to special types of ships and trades. However, at all times the Administration should satisfy itself that the detailed manning arrangements ensure a degree of safety at least equivalent to that established by these Guidelines.

2 Objectives

The objectives of these Guidelines are to ensure that a ship is sufficiently, effectively and efficiently manned to provide safety and security of the ship, safe navigation and operations at sea, safe operations in port, prevention of human injury or loss of life, the avoidance of damage to the marine environment and to property, and to ensure the welfare and health of seafarers through the avoidance of fatigue. These objectives can be achieved through the following:

.1 adoption of a goal-based approach;

.2 standard procedures for effective implementation; and

.3 effective enforcement.

3 Principles of minimum safe manning

3.1 The following principles should be observed in determining the minimum safe manning of a ship:

.1 the capability to:

.1 maintain safe navigational, port, engineering and radio watches in accordance with regulation VIII/2 of the 1978 STCW Convention, as amended, and also maintain general surveillance of the ship;

.2 moor and unmoor the ship safely;

.3 manage the safety functions of the ship when employed in a stationary or near-stationary mode at sea;

.4 perform operations, as appropriate, for the prevention of damage to the marine environment;

.5 maintain the safety arrangements and the cleanliness of all accessible spaces to minimize the risk of fire;

.6 provide for medical care on board ship;

.7 ensure safe carriage of cargo during transit;

.8 inspect and maintain, as appropriate, the structural integrity of the ship; and

.9 operate in accordance with the approved Ship's Security Plan; and

.2 the ability to:

.1 operate all watertight closing arrangements and maintain them in effective condition, and also deploy a competent damage control party;

.2 operate all onboard fire-fighting and emergency equipment and life-saving appliances, carry out such maintenance of this equipment as is required to be done at sea, and muster and disembark all persons on board; and

.3 operate the main propulsion and auxiliary machinery including pollution prevention equipment and maintain them in a safe condition to enable the ship to overcome the foreseeable perils of the voyage.

3.2 The following onboard functions, when applicable, should also be taken into account:

.1 ongoing training requirements for all personnel, including the operation and use of fire-fighting and emergency equipment, life-saving appliances and watertight closing arrangements;

.2 specialized training requirements for particular types of ships and in instances where crew members are engaged in shipboard tasks that cross departmental boundaries;

.3 provision of proper food and drinking water;

.4 need to undertake emergency duties and responsibilities; and

.5 need to provide training opportunities for entrant seafarers to allow them to gain the training and experience needed.

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ANNEX 2

GUIDELINES FOR DETERMINATION OF MINIMUM SAFE MANNING

1.1 The minimum safe manning of a ship should be established taking into account all relevant factors, including the following:

.1 size and type of ship;

.2 number, size and type of main propulsion units and auxiliaries;

.3 level of ship automation;

.4 construction and equipment of the ship;

.5 method of maintenance used;

.6 cargo to be carried;

.7 frequency of port calls, length and nature of voyages to be undertaken;

.8 trading area(s), waters and operations in which the ship is involved;

.9 extent to which training activities are conducted on board;

.10 degree of shoreside support provided to the ship by the company;

.11 applicable work hour limits and/or rest requirements; and

.12 the provisions of the approved Ship's Security Plan.

1.2 The determination of the minimum safe manning of a ship should be based on performance of the functions at the appropriate level(s) of responsibility, as specified in the STCW Code, which include the following:

.1 navigation, comprising the tasks, duties and responsibilities required to:

.1 plan and conduct safe navigation;

.2 maintain a safe navigational watch in accordance with the requirements of the STCW Code;

.3 manoeuvre and handle the ship in all conditions; and

.4 moor and unmoor the ship safely;

.2 cargo handling and stowage, comprising the tasks, duties and responsibilities required to plan, monitor and ensure safe loading, stowage, securing, care during the voyage and unloading of cargo to be carried on the ship;

.3 operation of the ship and care for persons on board, comprising the tasks, duties and responsibilities required to:

.1 maintain the safety and security of all persons on board and keep life-saving, fire-fighting and other safety systems in operational condition;

.2 operate and maintain all watertight closing arrangements;

.3 perform operations, as appropriate, to muster and disembark all persons on board;

.4 perform operations, as appropriate, to ensure protection of the marine environment;

.5 provide for medical care on board the ship; and

.6 undertake administrative tasks required for the safe operation and the security of the ship;

.4 marine engineering, comprising the tasks, duties and responsibilities required to:

.1 operate and monitor the ship's main propulsion and auxiliary machinery and evaluate the performance of such machinery;

.2 maintain a safe engineering watch in accordance with the requirements of the STCW Code;

.3 manage and perform fuel and ballast operations; and

.4 maintain safety of the ship's engine equipment, systems and services;

.5 electrical, electronic and control engineering, comprising the tasks, duties and responsibilities required to:

.1 operate the ship's electrical and electronic equipment; and

.2 maintain the safety of the ship's electrical and electronic systems;

.6 radiocommunications, comprising the tasks, duties and responsibilities required to:

.1 transmit and receive information using the radio equipment of the ship;

.2 maintain a safe radio watch in accordance with the requirements of the ITU Radio Regulations and the 1974 SOLAS Convention, as amended; and

.3 provide radio services in emergencies; and

.7 maintenance and repair, comprising the tasks, duties and responsibilities required to carry out maintenance and repair work to the ship and its machinery, equipment and systems, as appropriate to the method of maintenance and repair used.

1.3 In addition to the factors and functions in paragraphs 1.1 and 1.2, the determination of the minimum safe manning should also take into account:

.1 the management of the safety, security and protection of the environment functions of a ship at sea when not under way;

.2 except in ships of limited size, the provision of qualified deck officers to ensure that it is not necessary for the master to keep regular watches by adopting a three-watch system;

.3 except in ships of limited propulsion power or operating under provisions for unattended machinery spaces, the provision of qualified engineer officers to ensure that it is not necessary for the chief engineer to keep regular watches by adopting a three-watch system;

.4 the maintenance of applicable occupational health and hygiene standards on board; and

.5 the provision of proper food and drinking water for all persons on board, as required.

1.4 In determining the minimum safe manning of a ship, consideration should also be given to:

.1 the number of qualified and other personnel required to meet peak workload situations and conditions, with due regard to the number of hours of shipboard duties and rest periods assigned to seafarers; and

.2 the capability of the master and the ship's complement to coordinate the activities necessary for the safe operation and for the security of the ship and for the protection of the marine environment.

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ANNEX 3

RESPONSIBILITIES IN THE APPLICATION OF PRINCIPLES OF MINIMUM SAFE MANNING

1 Responsibilities of companies

1.1 The Administration may require the company responsible for the operation of the ship to prepare and submit its proposal for the minimum safe manning of a ship in accordance with a form specified by the Administration.

1.2 In preparing a proposal for the minimum safe manning of a ship, the company should apply the principles, recommendations and guidelines contained in this resolution and should be required to:

.1 make an assessment of the tasks, duties and responsibilities of the ship's complement required for its safe operation, for its security, for protection of the marine environment, and for dealing with emergency situations;

.2 ensure that fitness for duty provisions and record of hours are implemented;

.3 make an assessment of numbers and grades/capacities in the ship's complement required for its safe operation, for its security, for protection of the marine environment, and for dealing with emergency situations;

.4 prepare and submit to the Administration a proposal for the minimum safe manning based upon the assessment of the numbers and grades/capacities in the ship's complement required for its safe operation, for its security and for protection of the marine environment, justifying the proposal by explaining how the proposed ship's complement will deal with emergency situations, including the evacuation of passengers, where necessary;

.5 ensure that the minimum safe manning is adequate at all times and in all respects, including meeting peak workload situations, conditions and requirements, and is in accordance with the principles, recommendations and guidelines contained in this resolution; and

.6 prepare and submit to the Administration a new proposal for the minimum safe manning of a ship in the case of changes in trading area(s), construction, machinery, equipment, operation and maintenance or management of the ship, which may affect the safe manning.

2 Approval by the Administration

2.1 A proposal for the minimum safe manning of a ship submitted by a company to the Administration should be evaluated by the Administration to ensure that:

.1 the proposed ship's complement contains the number and grades/capacities of personnel to fulfil the tasks, duties and responsibilities required for the safe operation of the ship, for its security, for protection of the marine environment and for dealing with emergency situations; and

.2 the master, officers and other members of the ship's complement are not required to work more hours than is safe in relation to the performance of their duties and the safety of the ship and that the requirements for work and rest hours, in accordance with applicable national regulations, can be complied with.

2.2 In applying such principles, Administrations should take proper account of existing IMO, ILO, ITU and WHO instruments in force which deal with:

.1 watchkeeping;
.2 hours of work or rest;
.3 safety management;
.4 certification of seafarers;
.5 training of seafarers;
.6 occupational safety, health and hygiene;
.7 crew accommodation and food;
.8 security; and
.9 radiocommunications.

2.3 The Administration should require a company to amend a proposal for the minimum safe manning of a ship if, after evaluation of the original proposal submitted by the company, the Administration is unable to approve the proposed composition of the ship's complement.

2.4 The Administration should only approve a proposal for the minimum safe manning of a ship and issue accordingly a minimum safe manning document if it is fully satisfied that the proposed ship's complement is established in accordance with the principles, recommendations and guidelines contained in this resolution, and is adequate in all respects for the safe operation and the security of the ship and for the protection of the marine environment.

2.5 The Administration may withdraw the minimum safe manning document of a ship if the company fails to submit a new proposal for the ship's minimum safe manning when changes in trading area(s), construction, machinery, equipment or operation and maintenance of the ship have taken place which affect the minimum safe manning.

2.6 The Administration should review and may withdraw, as appropriate, the minimum safe manning document of a ship which persistently fails to be in compliance with rest hours requirements.

2.7 The Administration should consider the circumstances very carefully before allowing a minimum safe manning document to contain provisions for less than three qualified officers in charge of a navigational watch, while taking into account all the principles for establishing safe manning.

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ANNEX 4

GUIDANCE ON CONTENTS AND MODEL FORM OF MINIMUM SAFE MANNING DOCUMENT

1 The following information should be included in the minimum safe manning document issued by the Administration specifying the minimum safe manning:

.1 a clear statement of the ship's name, port of registry, distinctive number or letters, IMO number, gross tonnage, main propulsion power, type and trading area, whether or not the machinery space is unattended and company as defined in the ISM Code;

.2 a table showing the number and grades/capacities of the personnel required to be carried, together with any special conditions or other remarks;

.3 a formal statement by the Administration that, in accordance with the principles and guidelines set out in Annexes 1 and 2, the ship named in the document is considered to be safely manned if, whenever it proceeds to sea, it carries not less than the number and grades/capacities of personnel shown in the document, subject to any special conditions stated therein;

.4 a statement as to any limitations on the validity of the document by reference to particulars of the individual ship and the nature of service upon which it is engaged; and

.5 the date of issue and any expiry date of the document together with a signature for and the seal of the Administration.

2 It is recommended that the minimum safe manning document be drawn up in the form corresponding to the model given in the appendix to this Annex. If the language used is not English, the information given should include a translation into English.

APPENDIX

MODEL FORM OF MINIMUM SAFE MANNING DOCUMENT

MINIMUM SAFE MANNING DOCUMENT

(Official seal) (State)

Issued under the provisions of regulation V/14 of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, as amended

under the authority of the Government of

(Name of the State)

by

(Administration)

Particulars of ship*
Name of ship .....
Distinctive number or letters .....
IMO number .....
Port of registry .....
Gross tonnage:
National .....
International Tonnage Convention, 1969 .....
Main propulsion power (kW) .....
Type of ship .....

Periodically unattended machinery space yes/no

Operating Company
.....

* Alternatively the particulars of the ship may be placed horizontally.

Trading area[**]

The ship named in this document is considered to be safely manned if, when it proceeds to sea, it carries not less than the number and grades/capacities of personnel specified in the table(s) below.

Grade/capacity	Certificate (STCW regulation)	Number of persons

Special requirements or conditions, if any:

Issued at ..... on the ..... day of .....
(month and year)

Date of expiry (if any) .....

(Seal of the Administration)

.....
(Signature for and on behalf of the Administration)

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[**] Where a trading area other than unlimited is shown, a clear description or map of the trading area should be included in the document.

ANNEX 5

FRAMEWORK FOR DETERMINING MINIMUM SAFE MANNING

PREAMBLE

This framework has been developed to assist Administrations and companies in determining minimum safe manning.

STEPS FOR DETERMINING MINIMUM SAFE MANNING

1 Submission from the company

1.1 Submission of a proposal from the company for minimum safe manning defining the nature of the operation of the ship.

1.2 Submission needs to take into account the requirements of Annexes 2 and 3 in the context of the management of the safety, security and protection of the marine environment functions of a ship.

1.3 The process outlined below should enable companies to achieve greater depth and insight into the interdependencies and interactions of operational elements that influence the amounts of crew member workload and, ultimately, the proposed minimum safe manning level.

Operational functions

1.4 Beginning this process requires the breakdown of the operational elements into functions. Annex 2 provides guidance on the relevant functions that need to be considered, however, this list is not exclusive. Each function can then be broken down into a task list that includes the attributes listed below.

.1 **Duration**: What is the time required to execute each task? Time in this case is measurement of total man hours versus the actual duration taken for task completion, since some tasks can be done in a shorter time by using multiple individuals.

.2 **Frequency**: How often is the task performed? This can be categorized using some form of standard interval (i.e. hourly, daily, weekly, etc.).

.3 **Competence**: What are the skills, training and qualifications needed to consistently perform the task properly?

.4 **Importance**: What is the risk or consequence associated with improper performance?

Operational factors

1.5 Once a function is broken down into specific tasks and their attributes, it is then necessary to determine the specific personnel qualifications, operational policy and procedures, and infrastructure/technology necessary to perform each task. It is important to recognize that these elements may increase or decrease manning levels depending on

availability and appropriate procedures and of specific capability enabling technology/automation.

Task capability

1.6 The information generated in defining the operational factors and functions should be used to determine how many tasks that can be executed by an individual under the possible range of operational conditions. Critical considerations, while conducting this step, are human element limitations and relevant standards and regulations. These include sleep and circadian requirements, physical and mental workload associated with each task, and exposure limits to shipboard environmental conditions such as noise, temperature and toxins.

Workload assessments

1.7 Once steps relating to operational functions, operational factors and task capability have been conducted, the information is then used to determine whether workload will not exceed the minimum hours of rest and/or work as provided in relevant national and international regulations. Considerations, while performing this step, include work period lengths, work schedule designs and whether a single crew member can execute the tasks set in a specific work period or work period(s) per work day.

2 Evaluation by the Administration

2.1 The Administration should evaluate/approve the submission of the company against relevant national and international regulatory requirements and guidelines.

2.2 Having evaluated and approved the proposal the Administration should issue a minimum safe manning document including special requirements and conditions.

3 Maintenance of minimum safe manning document

A company should advise the Administration of any changes that would affect the minimum safe manning document, and in such circumstances prepare and submit a new proposal taking into account Annex 3.

4 Compliance monitoring

The Administration should periodically review the minimum safe manning arrangements.