



CASE STUDY ON ISM CODE



A ship named Angela was constructed in 1995 as a car ferry but in 2015 it was converted into a luxury cruise ship that can carry 500 passengers along with 70 crew. The ship flies the flag of state A and performs journeys among states B, C and D located in three different continents. Although the ship is owned by Summer Ltd, due to its lack of knowledge in the shipping sector Summer Ltd contracts out with Spring Ltd for technical management and operational management, and Winter Ltd for crew management of the ship. Before starting its journey on 01.08.2015, PR Classification Society acting on behalf of state A inspects the ship and although the ship does not have enough lifeboats it issues a Document of Compliance (DOC) and Safety Management Certificate (SMC) that are valid until 01.08.2020. DOC indicates Summer Ltd as the company whereas Winter Ltd is named as the company under SMC which states the type of the ship as “car ferry” by mistake.

Sumer Ltd is not aware of the deficiencies nor the mistake about the type of the ship written on SMC however Spring Ltd is aware of both issues yet it orders the master to start the journey. On 10.11.2015 the ship arrived at the port of state B. LMN acting on behalf of state B inspects the ships and identifies that the ship does not have enough lifeboats and the type of the ship written on SMC does not conform with its real type. The ship is detained for 2 weeks and LMN carries a new inspection but this time allows the ships to sail although the deficiencies still remain the same.

For around 5 years Angela sails among the ports of state B, C and D and is only being subject of documentary control rather than any inspection on the condition of the ship and its equipment. In 2020 because of COVID circumstances, state A cannot perform an audit on the ship therefore it automatically extends the validity of DOC and SMC until 01.08.2021. It however requests Summer Ltd to comply with Resolution IMO MSC 428(98) and address cyber risks in its safety management systems. Summer Ltd informs state A that it updates its safety management systems, introduces a cyber security policy and makes sure on board and on-shore personnel are aware of its cyber security policy by giving training to them. Spring Ltd is the IT service provider but it fails to make software updates and system maintenance on time.

On 10.01.2021 before the ship leaves from the port of state D, the master realises that not only he but also all crew members are showing clear signs of fatigue therefore phones Spring Ltd, explained the situation and asks to stay 1 day more however, the master’s request is not accepted. When the master insists to stay at the port his contract is terminated and a new master who has not worked on a cruise ship before is appointed on the same day by Winter Ltd, and the ship leaves state D on 10.01.2021.

On 11.01.2021, because of his fatigue one of the crew members uses his Usb memory stick on the ship’s computer without first making a virus scan as requested in cyber security policy and causes the ship’s all IT and OT systems to be hacked. All personal data, including credit card and bank account information, of passengers and the crew is stolen too. Because of the cyber-attack the ship's bridge and navigation system are damaged therefore it deviates from its usual route. Meanwhile the new master contracts with Winter Ltd and asks help for this technical crisis. But Winter Ltd cannot provide any technical support and the ship runs aground and starts sinking. The new master, who was employed a day before, is not aware of the emergency procedure of the ship therefore evacuation is conducted by other crew members. However, the ship does not have enough lifeboats therefore 105 passengers and 10 crew members died. At the end, the ship is sunk and causes intense marine pollution near state D’s coast.

Questions

- Classify the persons involved in this case
- Discuss the issue under the scope of application of the ISM Code
- Discuss the deficiencies and major non-conformities, if any, under the ISM Code
- Discuss liability issue by considering the causal link between actions and damages
- Discuss whether data lost falls within the scope of ISM Code

Note: Please consider ISM Code (attached) and general provisions of SOLAS Convention to examine the case.

The International Safety Management (ISM) Code: Resolution A.741(18) as amended by MSC.104(73), MSC.179(79), MSC.195(80), MSC.273(85) and MSC.353(92)

Preamble

- **1** The purpose of this Code is to provide an international standard for the safe management and operation of ships and for pollution prevention.
- **2** The Assembly adopted resolution A.443(XI), by which it invited all Governments to take the necessary steps to safeguard the shipmaster in the proper discharge of his responsibilities with regard to maritime safety and the protection of the marine environment.
- **3** The Assembly also adopted resolution A.680(17), by which it further recognized the need for appropriate organization of management to enable it to respond to the need of those on board ships to achieve and maintain high standards of safety and environmental protection.
- **4** Recognizing that no two shipping companies or shipowners are the same, and that ships operate under a wide range of different conditions, the Code is based on general principles and objectives.
- **5** The Code is expressed in broad terms so that it can have a widespread application. Clearly, different levels of management, whether shore-based or at sea, will require varying levels of knowledge and awareness of the items outlined.
- **6** The cornerstone of good safety management is commitment from the top. In matters of safety and pollution prevention it is the commitment, competence, attitudes and motivation of individuals at all levels that determines the end result.

Part A Implementation

1 General

1.1 Definitions

The following definitions apply to parts A and B of this Code.

- **1.1.1** *International Safety Management (ISM) Code* means the International Management Code for the Safe Operation of Ships and for Pollution Prevention as adopted by the Assembly, as may be amended by the Organization.
- **1.1.2** *Company* means the owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the shipowner and who, on assuming such responsibility, has agreed to take over all duties and responsibility imposed by the Code.
- **1.1.3** *Administration* means the Government of the State whose flag the ship is entitled to fly.
- **1.1.4** *Safety management system* means a structured and documented system enabling company personnel to implement effectively the company safety and environmental protection policy.
- **1.1.5** *Document of Compliance* means a document issued to a company which complies with the requirements of this Code.

- **1.1.6 *Safety Management Certificate*** means a document issued to a ship which signifies that the company and its shipboard management operate in accordance with the approved safety management system.
- **1.1.7 *Objective evidence*** means quantitative or qualitative information, records or statements of fact pertaining to safety or to the existence and implementation of a safety management system element, which is based on observation, measurement or test and which can be verified.
- **1.1.8 *Observation*** means a statement of fact made during a safety management audit and substantiated by objective evidence.
- **1.1.9 *Non-conformity*** means an observed situation where objective evidence indicates the non-fulfilment of a specified requirement.
- **1.1.10 *Major non-conformity***² means an identifiable deviation that poses a serious threat to the safety of personnel or the ship or a serious risk to the environment that requires immediate corrective action or the lack of effective and systematic implementation of a requirement of this Code.
- **1.1.11 *Anniversary date*** means the day and month of each year that corresponds to the date of expiry of the relevant document or certificate.
- **1.1.12 *Convention*** means the International Convention for the Safety of Life at Sea, 1974, as amended.

1.2 Objectives

- **1.2.1** The objectives of the Code are to ensure safety at sea, prevention of human injury or loss of life, and avoidance of damage to the environment, in particular to the marine environment and to property.
- **1.2.2** Safety management objectives of the company should, inter alia:
 - **.1** provide for safe practices in ship operation and a safe working environment;
 - **.2** assess all identified risks to its ships, personnel and the environment and establish appropriate safeguards; and
 - **.3** continuously improve safety management skills of personnel ashore and aboard ships, including preparing for emergencies related both to safety and environmental protection.
- **1.2.3** The safety management system should ensure:
 - **.1** compliance with mandatory rules and regulations; and
 - **.2** that applicable codes, guidelines and standards recommended by the Organization, Administrations, classification societies and maritime industry organizations are taken into account.³

1.3 Application

The requirements of this Code may be applied to all ships.

1.4 Functional requirements for a safety management system

Every company should develop, implement and maintain a safety management system which includes the following functional requirements:

- .1 a safety and environmental-protection policy;
- .2 instructions and procedures to ensure safe operation of ships and protection of the environment in compliance with relevant international and flag State legislation;
- .3 defined levels of authority and lines of communication between and amongst, shore and shipboard personnel;
- .4 procedures for reporting accidents and non-conformities with the provisions of this code;
- .5 procedures to prepare for and respond to emergency situations; and
- .6 procedures for internal audits and management reviews.

2 Safety and environmental-protection policy

- **2.1** The company should establish a safety and environmental-protection policy which describes how the objectives given in paragraph 1.2 will be achieved.
- **2.2** The company should ensure that the policy is implemented and maintained at all levels of the organization, both ship-based and shore-based.

3 Company responsibilities and authority⁴

- **3.1** If the entity who is responsible for the operation of the ship is other than the owner, the owner must report the full name and details of such entity to the Administration.
- **3.2** The company should define and document the responsibility, authority and interrelation of all personnel who manage, perform and verify work relating to and affecting safety and pollution prevention.
- **3.3** The company is responsible for ensuring that adequate resources and shore-based support are provided to enable the designated person or persons to carry out their functions.

4 Designated person(s)⁵

To ensure the safe operation of each ship and to provide a link between the company and those on board, every company, as appropriate, should designate a person or persons ashore having direct access to the highest level of management. The responsibility and authority of the designated person or persons should include monitoring the safety and pollution-prevention aspects of the operation of each ship and ensuring that adequate resources and shore-based support are applied, as required.

5 Master's responsibility and authority

- **5.1** The company should clearly define and document the master's responsibility with regard to:
 - .1 implementing the safety and environmental-protection policy of the company;
 - .2 motivating the crew in the observation of that policy;
 - .3 issuing appropriate orders and instructions in a clear and simple manner;

- **.4** verifying that specified requirements are observed; and
 - **.5** periodically reviewing the safety management system and reporting its deficiencies to the shore-based management.
- **5.2** The company should ensure that the safety management system operating on board the ship contains a clear statement emphasizing the master's authority. The company should establish in the safety management system that the master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the company's assistance as may be necessary.

6 Resources and personnel

- **6.1** The company should ensure that the master is:
 - **.1** properly qualified for command;
 - **.2** fully conversant with the company's safety management system; and
 - **.3** given the necessary support so that the master's duties can be safely performed.

- **6.2** The company should ensure that each ship is:
 - **.1** manned with qualified, certificated and medically-fit seafarers in accordance with national and international requirements; and
 - **.2** appropriately manned in order to encompass all aspects of maintaining safe operations on board.⁶
- **6.3** The company should establish procedures to ensure that new personnel and personnel transferred to new assignments related to safety and protection of the environment are given proper familiarization with their duties. Instructions which are essential to be provided prior to sailing should be identified, documented and given.
- **6.4** The company should ensure that all personnel involved in the company's safety management system have an adequate understanding of relevant rules, regulations, codes and guidelines.
- **6.5** The company should establish and maintain procedures for identifying any training which may be required in support of the safety management system and ensure that such training is provided for all personnel concerned.
- **6.6** The company should establish procedures by which the ship's personnel receive relevant information on the safety management system in a working language or languages understood by them.
- **6.7** The company should ensure that the ship's personnel are able to communicate effectively in the execution of their duties related to the safety management system.

7 Shipboard operations

The company should establish procedures, plans and instructions, including checklists as appropriate, for key shipboard operations concerning the safety of the personnel ship and

protection of the environment. The various tasks should be defined and assigned to qualified personnel.

8 Emergency preparedness⁷

- **8.1** The company should identify potential emergency shipboard situations, and establish procedures to respond to them.
- **8.2** The company should establish programmes for drills and exercises to prepare for emergency actions.
- **8.3** The safety management system should provide for measures ensuring that the company's organization can respond at any time to hazards, accidents and emergency situations involving its ships.

9 Reports and analysis of non-conformities, accidents and hazardous occurrences⁸

- **9.1** The safety management system should include procedures ensuring that non-conformities, accidents and hazardous situations are reported to the company, investigated and analysed with the objective of improving safety and pollution prevention.
- **9.2** The company should establish procedures for the implementation of corrective action, including measures intended to prevent recurrence.

10 Maintenance of the ship and equipment

- **10.1** The company should establish procedures to ensure that the ship is maintained in conformity with the provisions of the relevant rules and regulations and with any additional requirements which may be established by the company.
- **10.2** In meeting these requirements, the company should ensure that:
 - **.1** inspections are held at appropriate intervals;
 - **.2** any non-conformity is reported, with its possible cause, if known;
 - **.3** appropriate corrective action is taken; and
 - **.4** records of these activities are maintained.
- **10.3** The company should identify equipment and technical systems the sudden operational failure of which may result in hazardous situations. The safety management system should provide for specific measures aimed at promoting the reliability of such equipment or systems. These measures should include the regular testing of stand-by arrangements and equipment or technical systems that are not in continuous use.
- **10.4** The inspections mentioned in 10.2 as well as the measures referred to in 10.3 should be integrated into the ship's operational maintenance routine.

11 Documentation⁹

- **11.1** The company should establish and maintain procedures to control all documents and data which are relevant to the safety management system.
- **11.2** The company should ensure that:
 - **.1** valid documents are available at all relevant locations:

- .2 changes to documents are reviewed and approved by authorized personnel; and
 - .3 obsolete documents are promptly removed.
- **11.3** The documents used to describe and implement the safety management system may be referred to as the Safety Management Manual. Documentation should be kept in a form that the company considers most effective. Each ship should carry on board all documentation relevant to that ship.

12 Company verification, review and evaluation

- **12.1** The company should carry out internal safety audits on board and ashore at intervals not exceeding twelve months to verify whether safety and pollution-prevention activities comply with the safety management system. In exceptional circumstances, this interval may be exceeded by not more than three months.
- **12.2** The company should periodically verify whether all those undertaking delegated ISM-related tasks are acting in conformity with the company's responsibilities under the Code.
- **12.3** The company should periodically evaluate the effectiveness of the safety management system in accordance with procedures established by the company.
- **12.4** The audits and possible corrective actions should be carried out in accordance with documented procedures.
- **12.5** Personnel carrying out audits should be independent of the areas being audited unless this is impracticable due to the size and the nature of the company.
- **12.6** The results of the audits and reviews should be brought to the attention of all personnel having responsibility in the area involved.
- **12.7** The management personnel responsible for the area involved should take timely corrective action on deficiencies found.

Part B Certification and Verification

13 Certification and periodical verification

- **13.1** The ship should be operated by a company which has been issued with a Document of Compliance or with an Interim Document of Compliance in accordance with paragraph 14.1, relevant to that ship.
- **13.2** The Document of Compliance should be issued by the Administration, by an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government to the Convention to any company complying with the requirements of this Code for a period specified by the Administration which should not exceed five years. Such a document should be accepted as evidence that the company is capable of complying with the requirements of this Code.
- **13.3** The Document of Compliance is only valid for the ship types explicitly indicated in the document. Such indication should be based on the types of ships on which the initial verification was based. Other ship types should only be added after verification of the company's capability to comply with the requirements of

this Code applicable to such ship types. In this context, ship types are those referred to in regulation IX/1 of the Convention.

- **13.4** The validity of a Document of Compliance should be subject to annual verification by the Administration or by an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government within three months before or after the anniversary date.
- **13.5** The Document of Compliance should be withdrawn by the Administration or, at its request, by the Contracting Government which issued the Document when the annual verification required in paragraph 13.4 is not requested or if there is evidence of major non-conformities with this Code.
- **13.5.1** All associated Safety Management Certificates and/or Interim Safety Management Certificates should also be withdrawn if the Document of Compliance is withdrawn.
- **13.6** A copy of the Document of Compliance should be placed on board in order that the master of the ship, if so requested, may produce it for verification by the Administration or by an organization recognized by the Administration or for the purposes of the control referred to in regulation IX/6.2 of the Convention. The copy of the Document is not required to be authenticated or certified.
- **13.7** The Safety Management Certificate should be issued to a ship for a period which should not exceed five years by the Administration or an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government. The Safety Management Certificate should be issued after verifying that the company and its shipboard management operate in accordance with the approved safety management system. Such a Certificate should be accepted as evidence that the ship is complying with the requirements of this Code.
- **13.8** The validity of the Safety Management Certificate should be subject to at least one intermediate verification by the Administration or an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government. If only one intermediate verification is to be carried out and the period of validity of the Safety Management Certificate is five years, it should take place between the second and third anniversary dates of the Safety Management Certificate.
- **13.9** In addition to the requirements of paragraph 13.5.1, the Safety Management Certificate should be withdrawn by the Administration or, at the request of the Administration, by the Contracting Government which has issued it when the intermediate verification required in paragraph 13.8 is not requested or if there is evidence of major non-conformity with this Code.
- **13.10** Notwithstanding the requirements of paragraphs 13.2 and 13.7, when the renewal verification is completed within three months before the expiry date of the existing Document of Compliance or Safety Management Certificate, the new Document of Compliance or the new Safety Management Certificate should be valid from the date of completion of the renewal verification for a period not exceeding five years from the date of expiry of the existing Document of Compliance or Safety Management Certificate.

- **13.11** When the renewal verification is completed more than three months before the expiry date of the existing Document of Compliance or Safety Management Certificate, the new Document of Compliance or the new Safety Management Certificate should be valid from the date of completion of the renewal verification for a period not exceeding five years from the date of completion of the renewal verification.
- **13.12** When the renewal verification is completed after the expiry date of the existing Safety Management Certificate, the new Safety Management Certificate should be valid from the date of completion of the renewal verification to a date not exceeding five years from the date of expiry of the existing Safety Management Certificate.
- **13.13** If a renewal verification has been completed and a new Safety Management Certificate cannot be issued or placed on board the ship before the expiry date of the existing certificate, the Administration or organization recognized by the Administration may endorse the existing certificate and such a certificate should be accepted as valid for a further period which should not exceed five months from the expiry date.
- **13.14** If a ship at the time when a Safety Management Certificate expires is not in a port in which it is to be verified, the Administration may extend the period of validity of the Safety Management Certificate, but this extension should be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be verified, and then only in cases where it appears proper and reasonable to do so. No Safety Management Certificate should be extended for a period of longer than three months, and the ship to which an extension is granted should not on its arrival in the port in which it is to be verified, be entitled by virtue of such extension to leave that port without having a new Safety Management Certificate. When the renewal verification is completed, the new Safety Management Certificate should be valid to a date not exceeding five years from the expiry date of the existing Safety Management Certificate before the extension was granted.

14 Interim certification

- **14.1** An Interim Document of Compliance may be issued to facilitate initial implementation of this Code when:
 - **.1** a company is newly established; or
 - **.2** new ship types are to be added to an existing Document of Compliance,

following verification that the company has a safety management system that meets the objectives of paragraph 1.2.3 of this Code, provided the company demonstrates plans to implement a safety management system meeting the full requirements of this Code within the period of validity of the Interim Document of Compliance. Such an Interim Document of Compliance should be issued for a period not exceeding 12 months by the Administration or by an organization recognized by the Administration or, at the request of the Administration, by

another Contracting Government. A copy of the Interim Document of Compliance should be placed on board in order that the master of the ship, if so requested, may produce it for verification by the Administration or by an organization recognized by the Administration or for the purposes of the control referred to in regulation IX/6.2 of the Convention. The copy of the Document is not required to be authenticated or certified.

- **14.2** An Interim Safety Management Certificate may be issued:
 - **.1** to new ships on delivery;
 - **.2** when a company takes on responsibility for the operation of a ship which is new to the company; or
 - **.3** when a ship changes flag.

Such an Interim Safety Management Certificate should be issued for a period not exceeding six months by the Administration or an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government.

- **14.3** An Administration or, at the request of the Administration, another Contracting Government may, in special cases, extend the validity of an Interim Safety Management Certificate for a further period which should not exceed 6 months from the date of expiry.
- **14.4** An Interim Safety Management Certificate may be issued following verification that:
 - **.1** the Document of Compliance, or the Interim Document of Compliance, is relevant to the ship concerned;
 - **.2** the safety management system provided by the company for the ship concerned includes key elements of this Code and has been assessed during the audit for issuance of the Document of Compliance or demonstrated for issuance of the Interim Document of Compliance;
 - **.3** the Company has planned the internal audit of the ship within three months;
 - **.4** the master and officers are familiar with the safety management system and the planned arrangements for its implementation;
 - **.5** instructions, which have been identified as being essential, are provided prior to sailing; and
 - **.6** relevant information on the safety management system has been given in a working language or languages understood by the ship's personnel.

15 Verification

- **15.1** All verifications required by the provisions of this Code should be carried out in accordance with procedures acceptable to the Administration, taking into account the guidelines developed by the Organization¹⁰

16 Forms of certificates

- **16.1** The Document of Compliance, the Safety Management Certificate, the Interim Document of Compliance and the Interim Safety Management Certificate should be drawn up in a form corresponding to the models given in the appendix to this Code. If the language used is neither English nor French, the text should include a translation into one of these languages.
- **16.2** In addition to the requirements of paragraph 13.3, the ship types indicated on the Document of Compliance and the Interim Document of Compliance may be endorsed to reflect any limitations in the operations of the ships described in the safety management system.

2 ★ Refer to the Procedures concerning observed ISM Code major non-conformities (MSC/Circ. 1059-MEPC/Circ.401).

3 † Refer to the List of codes, recommendations, guidelines and other safety- and security-related non-mandatory instruments (MSC.1/Circ.1371).

4 ★ Refer to the Revised Guidelines for the operational implementation of the International Safety Management (ISM) Code by companies (MSC-MEPC.7/Circ.8).

5 ★ Refer to the Guidance on the qualifications, training and experience necessary for undertaking the role of the designated person under the provisions of the international Safety Management (ISM) Code (MSC-MEPC.7/Circ.6).

6 ★ Refer to the Principles of minimum safe manning, adopted by the Organization by resolution A.1047(27).

7 † Refer to the Guidelines for a structure of an integrated system of contingency planning for shipboard emergencies, adopted by the Organization by resolution A.852(20), as amended.

8 ★ Refer to the Guidance on near-miss reporting (MSC-MEPC.7/Circ.7).

9 ★ Refer to the List of certificates and documents required to be carried on board ships, 2013 (FAL.2/Circ.127, MEPC.1/Circ.817 and MSC.1/Circ.1462).

10 ★ Refer to the Revised Guidelines on the implementation of the International Safety Management (ISM) Code by Administrations, adopted by the Organization by resolution A.1071(28).