

THE IMPORTANCE OF IMPLEMENTING THE ISM CODE IN THE MACHINE ROOM AT KM. ADITHYA

Alwi Sibali, Abdul Nasir Rachman

^{1,2}Politeknik Maritim AMI Makassar

Article Info

Article history:

Received sept 13, 2023

Revised sept 18, 2023

Accepted sept 27, 2023

Keywords:

ISM,
Machine Room,
Safety Management

ABSTRACT

In accordance with the awareness of the importance of human factors and the need to improve ship operational management in preventing ship, human, cargo and property accidents and preventing pollution of the marine environment, IMO issued a regulation on ship safety management & marine environment protection known as the International Safety Management (ISM Code) which was also consolidated in the SOLAS convention. This research was carried out on the KM ship. ADITHYA on the Pare-pare – Samarinda cruise. PT. Afta Trans Mandiri. Based on the results of this study, it can be concluded that several things about Safety Management are as follows introduction of Safety Management is very important for the company or for ships because the process of understanding Safety Management for companies will be able to compete for the market

This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Corresponding Author: Abdul Nasir Rachman

Politeknik Maritim AMI Makassar

Email: captalwi01@gmail.com

1. INTRODUCTION

From statistics, it is known that about 80% of all ship accidents are caused by human error, in fact shows that 75-79% of human error, caused by poor management systems. So the task faced by shipping companies is how to eliminate or reduce errors caused by executing errors, which directly or indirectly, cause accidents.

The trick is to create a management system, which is able to create good and close cooperation between management on land and management on board to operate safely. The management system in question must be supported by knowledgeable implementers (HR). Have sufficient skills and supporting facilities. (It should be realized that decisions taken on board, where they must ensure that any action affecting safety and pollution, takes into account the consequences that will arise.) Based on this, the International Maritime Organization or IMO issued a new regulation ISM CODE as a tool for Safety Management for operation of ships and pollution prevention in SOLAS 74/78 (FIRDAUS, 2020).

When carrying out marine practices, researchers often find that crews do not apply safety procedures properly, for example crews often neglect to use safety helmets and other safety equipment such as safety gloves, safety shoes, safety harnesses and other safety equipment while working in the engine room (Cindy Diana Putri & Is Fadhillah, 2023). Then there are still found some safety procedures at work that are not implemented optimally,

such as toolbox meetings, permit to work forms and risk assessments that are not made and followed properly. Safety on ships, especially in the engine room, is often considered a minor issue (SHIVA RANANDA, 2022). In fact, in essence it is a source of problems that increase the risk of work accidents. The engine room is a dangerous place that requires special attention related to safety while working. This is certainly a matter of special note where foremen and oilmen do not understand permits to work, risk assessment and lack of concern about personal safety and the environment (Riocevin Herda Cahyono, 2023).

ISM Code is one example of a standard K3 and Environmental management system. More or less parallel to OHSAS 18001:2007 and ISO 14001:2004. The ISM Code is not a management system standard run on a voluntary basis but is a K3 and Environmental management standard required through laws and other requirements (Rachman et al., 2023).

The application of the ISM code above our kapal place prola is one of the applications of the ISM code: There is a monthly report report for administration in the office and documentation on the ship, besides that the ISM code is called a work plan, where before doing work a safety meeting is held And after work an evaluation meeting is held (ZAINAL, 2018).

In the Republic of Indonesia, the K3 management system that is clearly an obligation under laws and regulations is the Occupational Health and Safety Management System (SMK3) which has been mandated through Government Regulation No. 50 of 2012. The ISM Code was born from the need for safety management on ships caused by the high number of work accidents in the maritime and shipping fields (Wicaksono, 2017). (Riocevin Herda Cahyono, 2023) (Riocevin Herda Cahyono, 2023)

PT. Afta Trans Mandiri is a shipping company established on December 6, 2004 as a dedication by the Director to provide maximum transportation services, especially for the South Sulawesi region and of course with the hope for future development, so as to provide services to other regions.

With the Working Principles of Coordination, Openness, Comfort, Safety, and Meeting Good Service Standards, PT. Afta Trans Mandiri provides a capable fleet from time to time, starting from KM. Thalia ex New Soya, KMP. New Camellia, KMP. Fais ex Ieshima, KM. Adithya ex Camellia Maru, and finally in 2018 began the construction of KMP's new fleet. New Rose and began operations in February 2020.

2. METHOD

Research Location

This research was carried out on the KM ship. ADITHYA on the Pare-pare – Samarinda cruise. PT. Afta Trans Mandiri is a shipping company established on December 6, 2004 as a dedication by the Director to provide maximum transportation services, especially for the South Sulawesi region and of course with the hope for future development, so as to provide services to other regions

Data Types and Sources

a. Data Type

The type of data used in this study is qualitative data obtained in the form of variables in the form of information around the discussion both orally and in writing.

b. Data Sources

The data sources that the author uses consist of:

1. Primary Data

Primary Data is data obtained from direct observation. Data on this practice is obtained by means of survey methods, namely by observing, measuring and recording directly at the location of the practice.

2. Secondary Data

Secondary Data is complementary data from primary data obtained from the company and other matters related to this Practice.

Data Collection Methods

Some of the data collection methods that the author uses in conducting practice in the context of compiling and writing this scientific paper include:

- a. Field Method, which is a practice carried out by conducting a direct review of the object under study. Data and information are collected through:
 1. Observation is to make observations directly in KM. Adithya where the author carries out the practice of the sea.
 2. The interview was to hold a question and answer directly with the officers in KM. Adithya and lecturers at the Makassar Maritime Polytechnic.
 3. Literature Method
Namely practice carried out by reading and studying literature, books and writings related to the problem discussed to obtain a theoretical foundation that will be used in discussing the problem under study.

The data that has been collected through the following stages:

- 1) Data selection,
That is the stage of selecting data so that what is obtained is valid data and reflects the actual situation.
 - a) Valid data is data that is not used such as ship documents that are no longer valid.
 - b) Invalid data is data used such as valid ship documents and other office archives.
- 2) Data analysis,
That is the collection of data using predetermined equipment or equations, such as typewriters and computers.
- 3) Interpretasi data,
Namely analyzing data in a qualitative descriptive manner, namely explaining the data in the form of an explanation so that it can provide a clear picture of the research carried out, for example voltage stability in the electrical system on the KM ship. Adithya

3. RESULTS AND DISCUSSION

The Importance of Understanding International Safety Management (ISM CODE) in the Engine Room at KM. Adithya

What is meant by management here is the process of activities of shipping companies that describes the implementation of applicable regulations both in the office at the terminal and on board the ship.

The process in question is part of the company's life in order to be competent in competing for the market, because the poor corporate organization of a company, when associated with operating safety and pollution prevention, will bring losses due to loss of human life, damage, and loss of property and damage to the environment.

1. Definitions

1. ISM Code stands for *international Safety Management Code*, which is an international provision on management for the safety of ship operations and prevention of marine pollution
2. "Company" means the owner of the ship *or charterer, an individual or group, responsible for the operation of the vessel.*
3. "Administration" means the government of the country where the ship is registered which is tasked with overseeing the implementation of shipping safety.
 - a. "Hazardous Occurrences" are circumstances that can lead to an accident if the condition continues.

DPA stands for *Designated Person, A share* of a designated person who is responsible and has authority in terms of supervision of ship operations and safety. The DPA has a direct relationship with the leadership.

2. Impact of *Safety Management* on shipping companies

As is known that the ISM CODE is basically the use of written and documented methods of all operating procedures, both land and on board in an integrated manner whose main purpose is to ensure safety and the environment. The implementation of "*Safety Management*" requires the commitment of top management and all levels of employees, because of fundamental changes in the existing management system. To achieve this goal, it is necessary to develop policies, manuals, and procedures that require special personnel. The initial stage of planning and implementing "*Safety Management*", of course, will require additional facilities and costs that are sufficient for policy preparation. Manuals and procedures as well as training education fees for special personnel and all crew members on board, especially engine rooms.

Because this "*Safety Management*" *regulation* is mandatory, the companies that implement it will be seen as a company that has reliability and a good image. Because it will increase competitiveness and further ensure the survival of the shipping company.

In addition, companies that carry out "*Safety Management*" well will eventually benefit from more regular maintenance and operation of ships, reducing accidents and pollution so that "*Safety Management*" requires the holding of internal audits throughout the company's activities, with the aim of correcting irregularities that endanger and reduce, so that it requires quality coaching of ship crews Sustainable. Thus the implementation of "*Safety Management*" will produce quality human resources and provide better profits to the company.

3. Revise a running management system

Every shipping company certainly already has a written and unwritten management system in carrying out operational activities, both in the office and on every ship, especially the engine room.

The management system in question consists of company policies or *policies*, operating instructions, division of tasks, manuals, and operating procedures for maintaining machine rooms in the face of emergencies such as accidents or pollution

This existing management system needs to be reassessed to be adjusted to what is desired by "*Safety Management*" (chapter IX SOLAS 1974/1978). The reassessment of the existing management system is as follows:

- 1) To what extent the company's management has a system that complies with the ISM CODE.
- 2) What should be added or improved to existing systems.
- 3) Resources and facilities are already available in the fields of personnel, finance, and training/education facilities.

- 4) Determine the project leader to lead the task of conducting evaluation / assessment and improving the management system in accordance with the ISM CODE.
- 5) Determine the best methods for carrying out such projects in planning, preparation for their implementation throughout the course of operation.

When *the "project leader"* has been determined, he will again select a crew or machinist who will help to reassess the state of machine room management, plan the project, and adjust the project to fulfill the following functions:

- 1) Outlining activities and documenting all projects as they will be undertaken.
- 2) Divide responsibility for specific tasks in writing.
- 3) Plan out the estimated sources of existing tools the team needs
- 4) Determine the time schedule for planning and implementation.
- 5) Create methods that can be used to help develop and identify problems that arise.

Those are the things that need to be done in order to start preparations for the implementation of "*Safety Management*" in the engine room so that planning and implementation can run regularly and systematically.

4. Minimum safety procedures required

The minimum content of all manual procedures needed to start planning the implementation of "*Safety Management*", as referred to from the book "*Guidelines on the application of the IMO ISM code*" issued jointly by *The international chamber of Shipping* (ICS) and *the international shipping federation* (ISF) which has been adjusted for ship operations as follows:

- a. *Shipboard Organisation*
- b. *Functional responsibility*
- c. *Reporting procedures*
- d. *Comunication between ship dan company*
- e. *Inspection by master and senior officers*
- f. *Maintanance of documents and record*
- g. *Medical arrangements*
- h. *Alcohol and other drug policies and procedures*

Safety Management Implementation System onboard KM Adithya

After completing this learning, cadets are expected to be able to explain smoothly and correctly about the elements of *Safety Management* , including:

- 1) The purpose of "*Safety Management*" is to establish *international standards* regarding the safe management and operation of vessels, and prevent pollution.
- 2) The IMO session has adopted resolution No. A. 433 (XI) that all governments of member states are expected to take measures to provide protection and authority to Chief *Engineers* within reasonable limits to carry out their responsibilities in order to achieve maritime work safety and environmental protection at sea.
- 3) The IMO session has also adopted resolution NO.A.650 (17), that an appropriate management organization is needed to meet the needs of humans on board in order to create and maintain the highest standards in the field of safety and environmental protection.
- 4) Considering that no two shipping companies or shipowners have anything in common, and that ships operate under different conditions, the preparation of the code is based on common principles and objectives.

- 5) This code makes a general sense, so it opens up opportunities to develop it. Based on different levels of management, both on land and at sea. Requires different levels of knowledge and awareness, for each problem discussed

The main basis of good safety management is commitment from the leadership. While in terms of safety and prevention, commitment, ability, behavior, and motivation of individuals in all layers of activity will determine the final result.

Crew's Authority and Responsibilities for the Implementation of ISM CODE Safety at KM. Adithya

1. Authority and responsibility of the Company

- a. Establish and document the authority, responsibility and employment relationship between all employees who regulate, carry out and inspect related work, and can affect safety and environmental protection.
- b. The availability of sufficient facilities and support from the ground so that the executor can carry out his duties.

2. Powers and responsibilities of the *Chief Engineer*.

- a. The Company must clearly outline and document the Chief Engineer's responsibilities *in* implementing *Safety Management* in the engine room.
- b. The company must ensure that the safety management standards used on board the ship contain the chief *engineer's* authority to make decisions for safety and pollution prevention and ask for the company's support if necessary
- c. Implement company policies in terms of safety and environmental protection
- d. Motivate machinists in applying the policy.
- e. Issue precise, clear and simple commands and instructions.
- f. Check that the requirements mentioned above have been implemented.
- g. Review the implementation of safety standards and report deficiencies in ground management.

3. Human resources and *crew* in the machine room.

- a. *Chief Engineers* are carefully selected who know safety management standards and are fully supported so that their tasks can be carried out safely.
- b. Crew members are qualified, certified and medically fit in accordance with National and International requirements.
- c. Create procedures for new personnel or personnel transferred to new tasks in order to adjust their duties.
- d. Machinists involved with safety management standards must have a good knowledge of applicable laws, regulations, codes, and guidelines.
- e. Establish procedures to establish the type of training required and provide training to *oilers* and cadets in the engine room.
- f. Create procedures in a language that is easily understood by every *crew* in the engine room.
- g. Ensure that every *crew* in the engine room can communicate effectively in carrying out their duties.

4. Preparation of an operation plan in the machine room

Create procedures for preparing plans and instructions that can ensure vessel safety and pollution prevention. Different types of related tasks are determined and handed over to personnel qualified to carry them out.

5. Emergency preparedness

- a. Companies must establish procedures that can designate, describe and mitigate potential emergencies.

- b. The company must create a training plan to cope with the situation.
- 6. Report and Analysis of nonconformities, accidents and hazardous events.**
 - a. Safety management procedures that ensure nonconformities, accidents and dangerous situations are reported to the company, investigated and analyzed with a view to improving safety and pollution prevention.
 - b. The company must establish procedures for implementing corrective measures.
- 7. Maintenance of the vessel and its equipment**
 - a. The Company shall establish procedures to ensure that vessels are maintained in accordance with applicable regulatory provisions.
 - b. To meet these requirements the company must conduct inspections within an appropriate time frame, report nonconformities and their causes, adequate corrective action is already taken with a record of these actions kept.
- 8. Documentation**
 - a. The Head of the Machine Room must establish procedures to supervise all documents and data related to safety management standards
 - b. The head of the machine room must ensure that valid documents are available in their respective places, Changes to documents are checked and approved by the competent authority and expired documents must be issued.
 - c. Documents must be kept in a form deemed effective by the company, every machinist must understand about these safety documents and procedures.
- 9. Examination and reassessment on the part of the company**
 - a. The company must conduct an internal audit regarding *Safety Management* in the engine room.
 - b. The Company shall periodically evaluate the efficiency of safety management standards and if necessary re-examine safety management standards in accordance with the procedures established by the Company.
 - c. The company conducting the audit must be independent.
 - d. The results of the re-examination audit must be brought to the attention of all responsible personnel.
 - e. The driver or crew responsible for their field must immediately take action against any discrepancies found.

After all procedures are completed, they must be introduced and read by all crew in the engine room involved in carrying out ship operations in accordance with their respective scope of work That is, not everyone has to read books or procedures, after all crew in the engine room understand the procedures and work instructions, the implementation must be tested, so that if there is something that is not appropriate it can be *changed or repaired and adjusted*.

4. CONCLUSION

Based on the results of this study, it can be concluded that several things about *Safety Management* are as follows.

- 1) The introduction of *Safety Management is very important for the company or for ships because the process of understanding Safety Management for companies will be able to compete for the market.*
- 2) The system of implementing safety management on ships to ensure and protect safety through efforts to prevent work accidents, can increase the effectiveness of planned, measurable, structured and integrated occupational safety and health protection, then can prevent and reduce work accidents in engine rooms by involving elements of safety management,

- 3) Authority and responsibility for *Safety Management must be* carried out by the company because it will involve responsibilities and working relationships between all crew on board.

REFERENCES

- Cindy Diana Putri, & Is Fadhillah. (2023). Peran Safety Management Code Dalam Mengoptimalkan Keselamatan Kerja Crew Kapal MV Pekan Fajar. *INNOVATIVE: Journal Of Social Science Research*, 3(4), 1913–1927.
- FIRDAUS. (2020). *PENERAPAN INTERNATIONAL SAFETY MANAGEMENT CODE DI KAPAL MT. SINAR MALUKU PT. SAMUDERA ENERGI TANGGUH*.
- Rachman, C. A. N., Latiep, I. F., & Herison, R. (2023). *Manajemen Sumber Daya Manusia: Pengelolaan SDM Pada Pelayaran*. Nas Media Pustaka.
- Riocevin Herda Cahyono. (2023). *Optimalisasi Safety Of Procedure Guna Meminimalisir Kecelakaan Kerja Di Kamar Mesin MT. Serang Jaya*.
- SHIVA RANANDA. (2022). *KERJA GUNA MENCEGAH KECELAKAAN KERJA KAMAR MESIN DI KAPAL MT. GRIYA AMBON*.
- Wicaksono, R. Y. (2017). Risk Management Keselamatan Dan Kesehatan Kerja Pada Engine Room Kapal Feri Selat Madura Ii Surabaya. *Journal of Public Health Research and Community Health Development*, 1(1), 39–47.
- ZAINAL, A. (2018). *PENERAPAN ISM CODE (INTERNASIONAL SAFETY MANAGEMENT CODE) UNTUK MENEKAN ANGKA KECELAKAAN DIATAS KAPAL DAN PEMBERDAYAAN ABK DALAM OPERASI KAPAL DI PT. ALFA TRANS RAYA. KARYA TULIS*.