

**Melhoria da observação quando vigia o serviço em condições de mau tempo no navio da  
KM. Binaiya**

**Improving observation when watch keeping duty in bad weather conditions on the ship  
of KM. Binaiya<sup>1</sup>**

**Mejora de la observación cuando se observa el servicio en condiciones climáticas adversas en el  
barco de KM. Binaiya**

Received: 02/04/2020 | Revised: 05/04/2020 | Accepted: 25/06/2020 | Published: 05/07/2020

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**Resumo**

O objetivo deste estudo é observar o serviço de vigilância no KM. Binaya em condições de mau tempo. O método utilizado neste estudo é de pesquisa qualitativa. Esta pesquisa foi realizada ao realizar a prática de vela por um ano no KM. Binaiya e os dados utilizados foram retirados de várias fontes, segundo oficial e equipe. O resultado desta pesquisa mostra que o

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<sup>1</sup> Presented on 3rd ICMET

uso de ferramentas de navegação por radar que já são boas e precisam ser aprimoradas novamente e com cadetes de serviço e o timoneiro precisa muito se preparar para ajudar o oficial de plantão a fazer a vigilância de navegação em condições de mau tempo e visão limitada. Além disso, com base no resultado, pode-se concluir que o cadete de guarda de relógios também desempenha um papel importante em ajudar o relojoeiro, maximizando o uso da ferramenta de navegação por radar / arpa e está mais alerta ao relatar os perigos do oficial de plantão em para evitar colisões.

**Palavras-chave:** Vigilância; Mau tempo; Cadetes.

## Abstract

The aim of this study is to observe watch-keeping duty on KM. Binaya in bad weather conditions. The method used in this study is qualitative research. This research was carried out when carrying out the sail practice for a year on KM. Binaiya and the data used were taken from several sources, second officer and crew. The result of this research shows that the use of radar navigation tools that are already good and need to be improved again and cadet on duty and the helmsman very much needs to prepare himself to help the officer on duty do the navigational watch keeping in conditions of bad weather and limited vision. Furthermore, based on the result, it can be concluded that the watch keeping cadet also plays an important role in helping the watchmaker by maximizing the use of the radar / arpa navigation tool and is more alert in reporting the dangers of the officer on duty in order to avoid collision.

**Keywords:** Watch keeping; Bad weather; Cadets.

## Resumen

El objetivo de este estudio es observar el deber de vigilancia en KM. Binaya en malas condiciones climáticas. El método utilizado en este estudio es la investigación cualitativa. Esta investigación se realizó al realizar la práctica de vela durante un año en KM. Binaiya y los datos utilizados fueron tomados de varias fuentes, segundo oficial y tripulación. El resultado de esta investigación muestra que el uso de herramientas de navegación por radar que ya son buenas y necesitan ser mejoradas nuevamente y cadetes de servicio y el timonel necesita prepararse para ayudar al oficial de guardia a realizar la vigilancia de navegación en condiciones de mal tiempo y visión limitada. Además, según el resultado, se puede concluir que el cadete de guardia también juega un papel importante en ayudar al relojero al maximizar

el uso de la herramienta de navegación radar / arpa y está más alerta al informar los peligros del oficial de guardia en Para evitar colisiones.

**Palabras clave:** Vigilancia; Mal tempo; Cadetes.

## 1. Introduction

IMO issue a regulation on the Convention on the International Regulations for Preventing Collisions at Sea 1972 which is generally referred to as the 1972 Collision Regulation or abbreviated as the 1972 COLREGs, if in Indonesian it is known Peraturan Internasional Pencegahan Tabrakan di Laut (P2TL) in 1972 is the International Maritime Organization (IMO) (International Maritime Organization (IMO), 2001)Resolution number A.464 (XII) concerning regulations that apply internationally and must be obeyed and implemented in full by all ships, ship owners, captains, and crew to avoid accidents at sea, especially accidents that occur caused by weather that we cannot predict which is often called bad weather (Riduwan, 2006). The application of the Collision Regulation 1972 on the safety of Indonesian shipping is to help improve the skills and skills of all Indonesian Officers and Skippers in all matters, especially during guard services, in order to reduce the danger of navigation at sea, especially in the event of bad weather so that vision in the lookout of Watch keeping duty limited start.

The purpose of the application of the 1972 Collision Regulation which consists of 38 rules and 4 attachments include a way to improve lookout not by eye but also by using the ear and other sensory devices in the event of bad weather conditions in limited vision to avoid accidents on the voyage (Winarso, 2003).

Bad weather is one of the biggest causes of sea accidents that have occurred in Indonesia. Bad weather is one of the incidents where weather conditions, sea, and even air are not in normal condition so that it causes bad effects and often causes conditions that can result in an accident. In this case the accident in question is a ship accident caused by disturbance in the lookout of marine guard officers during the duty service due to external interference factors, namely unstable weather (Zaks, 2001), sea water which has increased dramatically or is often referred to as bad weather, which results in reduced lookout and inaccurate navigation tools when an impossible view is often referred to as limited vision. This is often the main cause of accidents at sea (Kamus Besar Bahasa Indonesia, 2013). Examples of cases caused by bad weather are a fishing boat named Sri

Dewi sank in the sea near Karangsong Beach, Indramayu Regency. The ship which was about to return to Karangsong Indramayu Beach from the waters of Subang was sunk due to rain which hit and damaged the ship's body so that sea water came in and sank the ship. Therefore seamen should be careful what if they find bad weather, so that accidents do not occur the same or worse (Ardhana & Hastuti, 2018).

It is also regulated based on the 1978 STCW, (International Maritime Organization (IMO), 2001) STCW Amendment 1995 Chapter DIII which regulates the matters required by the crew during their duties both at port and at sea. This provision must be understood and applied by all crew members while carrying out their duties. In addition to the competencies that must be possessed according to their duties and responsibilities on board as stipulated in Chapter VIII of the STCW. To become a crew and carry out their duties on board, in accordance with IMO rules regarding the STCW code of 1978 which regulates the minimum standards that must be met by the crew, relating to crew training, certification and guard officers for seafarers in accordance with the rules of the flag state on the ship. To find out the contents of the 1978 STCW convention along with the latest amendment to the Manila amendment 2010 will be discussed further in this paper (Bogdan dan Taylor, 1975).

The provisions of Chapter VIII are operational in nature and have a direct impact on the smoothness and operation of a ship which is more determined by the crew in terms of:

1. Knowledge and skills according to the responsibilities to be implemented.
2. Physical and mental readiness.

These things are directly applied during the assignment also on this ship is the understanding and responsibility in carrying out watch keeping duty. In addition, the 10 STCW amendments also mentions the revision of requirements during working hours and breaks and new requirements for the prevention of Captain and alcohol abuse, as well as updated standards relating to medical fitness standards for seafarers, in order to avoid accidents (Moeliono, 2007). Crew is, all personnel who work on the ship, tasked with operating and maintaining the ship and maintaining its cargo. The crew consists of the captain and the crew. The captain is also called the captain / master is the general leader on board, because the ship is a special environment then the captain is given autonomous authority. The captain is responsible for the safety of the ship, the crew, the cargo and the passengers (Margono, 2007).

In places where cadets carry out marine practices, ships often crash into fishing boats that suddenly cross from the bow, as a result of bad weather that disturbs their visibility and eye focus when on watch keeping duty (Moleong, 2000). One example of this is that on May 14, 2017 when it entered the Makassar Strait, the weather at that time had a beau port wind scale of 5 with a wave height of 2.0 - 3.0 meters, and was windy with an average speed of 17-21 knots, accompanied by heavy rain. Visibility and hearing at that time was very limited, everything was not clearly visible (Politeknik Pelayaran Surabaya, 2013). The chief officer who was on watch keeping duty at that time was the second commander, with his alacrity he always increased his lookouts on the Radar / ARPA navigation device, while at the same time on the navigation device he found a fishing boat that was crossing right on the bow of the ship. The fisherman was almost hit by a ship, and fortunately the second officer immediately took action. This proves that increasing lookouts during watch keeping services using radar navigation tools is very important (Politeknik Pelayaran Surabaya, 2015).

Therefore, to avoid the occurrence of undesirable things at sea when sailing especially bad weather which causes limited vision and loss of concentration of officers who are currently carrying out watch keeping duty it is necessary to improve lookout during watch keeping and bad weather and visibility conditions limited. Thus, this study aim to observe watch-keeping duty on KM. Binaya in bad weather conditions.

## 2. Methodology

In this study the authors use a qualitative approach in the form of case studies, which means that the unit of analysis is a phenomenon that researchers choose to understand in depth without considering the number of sites, participants or documents for a study (Sutama, 2015). This research was carried out when carrying out the sail practice for 1 year on the MV. BINAIYA and the data used were taken from several sources, second officer and crew (Soelaiman, 2007). This research is only descriptive, that is limited to the effort to express a problem or situation or event as it is so that it is revealing facts and provides an objective picture of the true state of the object under study.

### 3. Result

#### A. The use of radar navigation tools that are already good and need to be improved again.

In this case the cause of the danger of navigation is the lack of observations during the watch keeping duty where in (Politeknik Pelayaran Surabaya, 2015) P2TL regulation (Presiden Republik Indonesia, n.d.)the 5th rule is always making proper observations, both by sight and hearing as well as all available facilities according to the circumstances. Likewise, the Radar / Arpa navigation tool always enhances observations on this navigation tool that not only uses the eyes but also listens to the sound of navigation danger signals using the ear during bad weather or limited vision in accordance with Rule 19 P2 TL at point D which says that a ship can detect with Radar the presence of other ships must really determine whether the situation is developing too close or there is a risk of collision. If this is the case, he must take action to avoid it in sufficient time provided that a turn around as far as possible should be avoided:

- a. A Port side course changing for the ship in front is rather transverse other than the ship that is being overtaken.
- b. A course changing toward the ship directly transversely or behind the transverse direction.

At the sea training cadets, this has been implemented but it has not been maximized by the incident when entering the Makassar Strait. The commander who performed guard duty at that time was Second Officer, with his alacrity he always increased his observations on the Radar / Arpa navigation tool, at the same time on the navigation device. He found a fishing boat that was crossing which was right on the bow of the ship. Fortunately, Second Officer immediately took action to avoid the fishing boat (Kruzer & Went, 2015). Therefore it is very necessary to increase the observation on the Radar / Arpa navigation tool especially when bad weather and limited vision.

**B. Cadet on duty and the helmsman very much needs to prepare himself to help the officer on duty do the navigational watch keeping in conditions of bad weather and limited vision.**

When conducting the cadet navigation watch duty, the helmsman must prepare himself for the distribution of each task without having to be instructed by the officer on duty to assist the officer on duty to conduct navigation watch duty, especially during bad weather and limited vision so that there is no danger of navigation. Cadet is aware of its task, which is to help observe the situation around the platforms and outside decks, and also to help in observing Radar / Arpa navigation tools to analyze the danger of a collision. The helmsman also did his job by watching the steering wheel and also seeing the situation around the bow (Soehardhi, 2003).

Based on the opinion of Suhardi above, Cadet on Duty and the helmsman very much needs to prepare himself to help the officer on duty do the navigational watch keeping in conditions of bad weather and limited vision.

#### **4. Final Considerations**

In the previous discussion, an analysis of existing problems has been carried out. From the results of the analysis obtained several problems solving, Thus, it can be concluded that:

1. Radar / Arpa navigation tool on the KM boat. BINAIYA has been used, but the observation needs to be increased when bad weather and limited vision by maximizing the use of the menus contained in the Radar / Arpa navigation tool, in order to detect and analyze data and the presence of targets around the ship such as CPA and TCPA for avoid the danger of collision.
2. Cadet on duty and the helmsman on duty has prepared himself to assist the task of the officer on duty to make observations around. But the function and role of the observer need to be improved. The watch keeping cadet also plays an important role in helping the watchmaker by maximizing the use of the Radar / Arpa navigation tool and is more alert in reporting the dangers of the officer on duty in order to avoid collision.

Thus, for further research suggested to be more alert in reporting the dangers on duty to avoid collision. And further research can examine about bad weather within other subject matter.

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[https://doi.org/10.1016/S1367-5931\(00\)00181-2](https://doi.org/10.1016/S1367-5931(00)00181-2)

**Percentage contribution of each author in the manuscript**

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