

# Sultan Hasanuddin's Training Ship Feasibility Analysis

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## Sultan Hasanuddin's Training Ship Feasibility Analysis

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**Abstract:** Every ship that complies with the Solas 1974/1978 regulations is equipped with safety equipment to aid or assure safety. Sultan Hasanuddin's Training Ship is a vessel designed to train Makassar Maritime Science Polytechnic students. It is vital to pay attention to completing requirements such as personnel and credentials owned by a ship in order to keep a training ship viable. The purpose of this study is to determine the feasibility of the Sultan Hasanuddin Training Ship in line with the provisions of SOLAS 1974/1978, which focuses on the adequacy of the crew and certificates owned by the Sultan Hasanuddin Training Ship. A descriptive qualitative technique was utilized. The findings of this study show that the crew on duty on the Sultan Hasanuddin Training Ship is sufficient, namely 14 people, while the completeness of certificates based on the provisions of SOLAS 1974/78 was discovered to be lacking, with several certificates not owned by the Sultan Hasanuddin Training Ship.

**Keywords:** Eligibility, training ship, crew, certificate

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### I. INTRODUCTION

The Maritime Science Polytechnic of Makassar is the oldest maritime-related educational institution in Makassar, South Sulawesi, and eastern Indonesia. The Makassar Maritime Research Polytechnic was founded during the Dutch East Indies era (1915-1916) and has continued to develop maritime science in Indonesia to this day. The Maritime Science Polytechnic of Makassar is provided with a training ship as a venue for cadets to enhance sailing skills, namely the Sultan Hasanuddin Training Ship, which was built in 2016.

Sultan Hasanuddin's training ship is made of entirely welded steel, has two propellers, and is powered by two diesel engines. The ship's major dimensions are 63 meters in length, 59 meters in vertical line length, 12 meters in breadth, 4 meters in height, and 2.8 meters in water depth need. Fuel tanks weigh 115 tons, and fresh water tanks weigh 175 tons. The ship has a maximum power of 2x1000hp and a minimum speed of 12 knots. The ship has a capacity of 21 crew members, two VVIP passengers, ten instructors, 100 cadets/cadets, and 100 passengers.

The regulations of Solas 1974/1978 must be followed by any ship that operates. Based on SOLAS 1974/1978 requirements, fitted with safety equipment to support or assure the safety of life and property at sea. Every ship must have safety equipment to assist or ensure the safety of life and property at sea, according to SOLAS 1974/1978. Personal safety equipment (life buoys, life jackets, and immersion suits), Survival Craft, and other types of safety equipment are available (lifeboat, life raft etc.). SOLAS aims to improve and regulate the safety of life at sea. Accidents happen frequently, just as they do when sailing.

According to the International Maritime Organization, human factors account for 80% of accidents, while other variables account for 20%. Technical, human, and weather factors are all elements that contribute to ship accidents in Indonesia, according to past studies (Saputra, 2021). Bulk carrier ships are subjected to this form of fire mishap, which is caused by an open fire. General ships are more likely to have collisions with causal factors such as watchkeeping and skippers, while tankers are more likely to sink due to factors such as ballast, construction, and leaks (Hasugian et al; 2021).

Shipping safety and security is a condition of achieving safety and security criteria involving transportation in waterways, ports, and the marine environment, as defined in the Shipping Law Number 17 of 2008. The quality of a well-maintained vessel, combined with the ability to run all crew members, is generally enough to ensure shipping safety (Malisan, 2010). In terms of a strategy to prevent ship accidents, it is necessary to have government oversight, establish safety provisions for operators, and make optimal use of shipping facilities (Hasugian et al; 2021). Furthermore, ships operating in Indonesian waters tend to be older, with an average age of 20 years. Furthermore, numerous used ships are imported to meet domestic ship loading space requirements (Malisan, 2010). The purpose of this study is to see if the Sultan Hasanuddin training ship can meet the requirements of SOLAS 1974/1978.

## II. METHODOLOGY

The research was conducted onboard Sultan Hasanuddin's Training ship and lasted 3 (three) months, from June to September 2021. The first stage of this research was a literature review with the goal of summarizing the basic theories about certificates, shipping safety equipment such as safety certificates, lifesaving appliances, firefighting equipment, radio communications, and navigational safety based on SOLAS regulations, as well as other supporting information.

Direct observation and interviews with the Master and Crew of the Sultan Hasanuddin Training Ship, which belongs to the Makassar Marine Science Polytechnic, were used to collect data on the Sultan Hasanuddin Training Ship's general organization and safety equipment. The Sultan Hasanuddin Training Ship conducted a data analysis of crew eligibility standards and certificates in compliance with the norms of SOLAS 1974/1978.

## III. DISCUSSION

### Crew list

Sultan Hasanuddin's training ship has 19 crew members. The numerous positions on board include those listed in Table 1.

**Table 1.** Crew list of the Sultan Hasanuddin Training Ships

Position	The number of crew should be (Directorate General of Traditional Shipping 2012 Article 150-151)	Sultan Hasanuddin's number of crew training ships
Skipper	1	1
KKM	1	1
Mualim	1	3
Machinist	1	3
Bosun	1	1
Foreman	1	1
Electrician	1	1
Helmsman	3	3
Sailor	1	1
Chef	1	1
Oilman	1	2
Service	1	1
<b>Total</b>	<b>14</b>	<b>19</b>

**Source:** The Training Ship of Sultan Hasanuddin, 2021

Ships with a power of less than 3,000 KW are required to have a crew of 14 people, according to the Decree of the Director General of Traditional Ships 2012 Articles 150-151, but the Sultan Hasanuddin Training Ship has 19 personnel.

### Certificate type

Recommended certificates for ships (Hananto and Dompas 2007), as can be seen in Table 2.

**Table 2.** Certificates that must be owned by training ships according to Solas

No.	Certificate According to Solas	Sultan Hasanuddin Training Ship
1	Certificate of Register	√
2	Tonnage Certificate	√
3	International Load Line Certificate	√
4	Intact Stability booklet	
5	Cargo Securing Manual	
6	International oil Pollution Preventing Certificate (IOPP Certificate)	√
7	Garbage Management Plan	
8	International Sea Wage Pollution Prevention Certificate	
9	Safe Manning Certificate	
10	Certificate for Master, Officers and Rating	√

11	Documents of Compliances (DOC) and Safe Management Certificate (SMC)	
12	Certificate for Medical Fitness	√
13	Radio Station Silence	
14	Fire Control Plan and Master List	√
15	Damage Control Booklet	
16	Ship's Log Book	√
17	Classification Certificate ( Hull and Machinery )	√
18	Port State Control Report	

Source: Training Ship Certificate Data, 2021

In order to comply with SOLAS regulations, many certificates for the Sultan Hasanuddin Training Ship must be fulfilled, as shown in Table 2. 1) Intact Stability booklet, 2) Cargo Securing Manual, 3) Garbage Management Plan, 4) International Sea Wage Pollution Prevention Certificate, 5) Safe Manning Certificate, 6) Documents of Compliances (DOC) and Safe Management Certificate (SMC), 7) Radio Station Silence, 8) Damage Control Booklet, and 9) Port State Control Report are among the certificates.

#### IV. CONCLUSIONS AND RECOMMENDATIONS

The training ship's crew is in compliance with all applicable requirements. Solas has given Sultan Hasanuddin's training ship a 40 percent certificate. It is recommended that the Sultan Hasanuddin Training Ship certificate be completed in accordance with Solas rules, including the Intact Stability booklet, Cargo Securing Manual, Garbage Management Plan, International Sea Wage Pollution Prevention Certificate, Safe Manning Certificate, Documents of Compliances (DOC) and Safe Management Certificate (SMC), Radio Station Silence, Damage Control Booklet, and Port State Control Report.

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