

Judicial Review of Indonesia's Position as the First Archipelagic State to implement the Traffic Separation Scheme to Establish Maritime Safety and Security

Rosmini Yanti, Safira Aviolita, Marsetio

Abstract—Indonesia has several straits that are very important as a shipping lane, including the Sunda Strait and the Lombok Strait, which are the part of the Indonesian Archipelagic Sea Lane (IASL). An increase in traffic on the Marine Archipelago makes the task of monitoring sea routes increasingly difficult. Indonesia has proposed the establishment of a Traffic Separation Scheme (TSS) in the Sunda Strait and the Lombok Strait and the country now has the right to be able to conceptualize the TSS as well as the obligation to regulate it. Indonesia has the right to maintain national safety and sovereignty. In setting the TSS, Indonesia needs to issue national regulations that are in accordance with international law and the general provisions of the IMO (International Maritime Organization) can then be used as guidelines for maritime safety and security in the Sunda Strait and the Lombok Strait. The research method used is a qualitative method with the concept of linguistic and visual data collection. The source of the data is the analysis of documents and regulations. The results show that the determination of TSS was justified by International Law, in accordance with article 22, article 41, and article 53 of the United Nations Convention on the Law of the Sea (UNCLOS) 1982. The determination of TSS by the Indonesian government would be in accordance with COLREG (International Convention on Preventing Collisions at Sea) 10, which has been designed to follow IASL. Thus, TSS can provide a function as a safety and monitoring medium to minimize ship accidents or collisions, including the warship and aircraft of other countries that cross the IASL.

Keywords—Archipelago State, maritime law, maritime security, traffic separation scheme.

I. INTRODUCTION

INDONESIA as an archipelago has the task and function of sovereignty in Indonesia's waters consisting of inland waters, archipelago waters and territorial sea. Through the Islands and Territorial Sea, Indonesia must accommodate international interests for the right of passage, especially in shipping. The shipping sector is a place for the sustainable economic development of East Asian countries which are highly dependent on the Asian waters. Ships that cross the Islands and Territorial Sea are the economic arteries for ship owner countries including the world economy.

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Indonesia's waters have dense world shipping lanes. Indonesia's waters connect the world with East Asia and the Pacific Ocean, Indian Ocean, Africa and Europe. Indonesia's position is also a crossing point between the Pacific Ocean and the Indian Ocean, the continents of Asia and Australia, even in the ASEAN Region two-thirds of its territory is Indonesia's waters. Since the economic interest of the West and the East passes through Indonesia, it should take Indonesia as the main controller of one of the world's core maritime traffic regions [1].

Based on the results of the ratification of Indonesia as an archipelagic state stated in the UNCLOS 1982, Indonesia is required to provide a shipping lane that is free to pass and becomes an international route known as the IASL. IASL comes to be known as the Sea Line of Trade (SLoT) and Sea Line of Communication (SLoC). As a country with an important strategic position, Indonesia has four out of nine international shipping lanes for peaceful traffic in Indonesia. Among them are the Sunda Strait, Lombok Strait, Malacca Strait, and Ombai Strait. For the other three straits namely the Strait of Gibraltar in Morocco, the Suez Canal in Egypt, and the Panama Canal in Spain [2].

The development of shipping and increased traffic in the Archipelago Sea Channel results in many ships crossing the IASL. Especially for oil and gas transportation routes for the energy needs in East Asia, many ships pass through the Malacca Strait, the Sunda Strait and the Lombok Strait. However, those ships weighing more than 230,000 deadweight tonnage (d.w.t.) cannot pass through the Malacca Strait; instead, they must pass through the Sunda Strait, the Lombok Strait, and the Makassar Strait [3].

If there are shipping obstacles in the Malacca Strait, the closest alternative route is the Sunda Strait followed by the Lombok Strait. As vital waterways in Indonesia, the Sunda Strait and the Lombok Strait are also part of the IASL. Thus, with the density of shipping in the Sunda Strait and the Lombok Strait of Indonesia, it is necessary to implement a TSS for demarcation of shipping lines for vessels traveling in opposite directions in the busy and narrow shipping lanes. The density of sea traffic in the Sunda Strait and Lombok Strait could lead to potential collisions and accidents at sea.

This study aims to analyze international and national regulations relating to the application of the TSS in Indonesia and assess the impact of its implementation on maritime safety

and security in the Sunda Strait and the Lombok Strait. The research method used is a qualitative method with the concept

of linguistic and visual data collection. Data are obtained from the analysis of documents and regulations.



Fig. 1 IASL [11]

II. TSS

TSS is a traffic management route system governed by the IMO. IMO defines the "Traffic Separation Scheme" as the rule of traffic that runs opposite or almost opposite through a zone or separation lane, traffic lane, etc. Arrangements regarding TSS are contained in the COLREG 1972 Rule 10 [4]. In other words, TSS can be interpreted as a dividing line between the navigation boundaries across ships and territorial waters of national jurisdictions.

To establish a TSS, Indonesia needs to submit a TSS proposal to IMO, the Subcommittee on NCSR in order to obtain initial technical approval. In this phase, the TSS proposal will be evaluated and given recommendations regarding its implementation. Then, the recommendation is forwarded to the IMO session stage, the Maritime Safety Committee (MSC) for adoption [5].

The determination of the TSS in the Sunda Strait and the Lombok Strait was discussed as Item 3 Agenda at the 5th IMO Subcommittee on Navigation, Communication, Search & Rescue (NCSR) Session, which was held on February 19-23, 2018 at the IMO Headquarters in London. The discussion on the IMO Session of the 5th Sub-Committee on NCSR previously had passed several studies and discussions involving relevant ministries, institutions and stakeholders through workshops and focus group discussions (FGD). The TSS Designation Plan in the Sunda Strait and the Lombok Strait was informed through the Cooperative Mechanism Meeting held at the 10th Cooperation Forum Session (CF) in Kota Kinabalu, Malaysia on October 2-3, 2017, which was attended by three Coast Countries (Singapore, Malaysia, Indonesia), several IMO Member Countries, and International shipping stakeholders using the Malacca Strait and the Singapore Strait [6].

The TSS established for the Sunda Strait and the Lombok Strait proposed by Indonesia at the IMO Plenary Session, 6th NCSR Sub-Committee, on January 25, 2019. It was approved and subsequently adopted in the IMO Session at the 110th MSC on June 10, 2019 and is due to come into force on June

2020 [7].

III. SUNDA STRAIT AND LOMBOK STRAIT

A. Sunda Strait

Sunda Strait has a width of 3.2 nautical miles; thus, the shipping lane is considered very narrow. The Sunda Strait is a vital traffic route from Africa, the Middle East and Australia. The Sunda Strait is also a ferry vessel crossing path between Java to Sumatra, so that intrainsular traffic is very dense [8]. Also found within the Sunda Strait is the Koliot coral reef covering an area of 1.6 nautical miles [9], and is considered very dangerous for shipping.

The rights of the archipelagic sea lanes in the Sunda Strait require all ships from north and south to sail east from Sangiang Island. This is due to the eastern waters on Sangiang Island which are areas that ships or airplanes cannot pass. In the Sunda Strait there is a 10% rule and a rule regarding the prohibition of passing behind the island is within an area of 25 nautical miles to the left and right of the axis of the archipelagic sea lane. The facts that occur on the ground are many ships crossing the east of Sangiang Island for reasons of shipping safety. Thus, if the ship sails east of Sangiang Island, it will violate Indonesian legislation related to the problem of the crossing [9]. Under these circumstances, the application of TSS proposed and adopted by IMO in the Sunda Strait is as depicted in Fig. 2.

B. Lombok Strait

At a depth of 100 meters, the Lombok Strait is a suitable for route for large ships because the Lombok Strait, and is used to connect the Indian Ocean to the South China Sea. The strait is narrowest between Nusa Penida Island and Bali Island at about 3.2 nautical miles and widest between Nusa Penida Island and Lombok Island at around 9.7 nautical miles [9]. The IASL axis is east of Nusa Penida Island, and many ships cross the west of Nusa Penida. This condition contradicts the IASL provisions that ships cannot implement the rights to cross their archipelagic sea lanes in the back waters of the

islands within the IASL crossings.

To improve the tourist destinations on the island of Lombok, there are many ferries and interinsular crossings from Bali. Thus, in this strait there are problems related to the safety and security of shipping. The Lombok Strait is also located on a coral triangle rich in marine biodiversity that must be protected, since the area contains many well-known and rare marine species that are sensitive to the effects of shipping activities. Under these circumstances, the application of TSS adopted and submitted to IMO for the Lombok Strait is as shown in Fig. 3.

IV. NATIONAL AND INTERNATIONAL REGULATION

The TSS established for the Sunda Strait and the Lombok Strait is in accordance with the provisions contained in the 1982 UNCLOS which was ratified by Indonesia with Act No. 17 of 1985.

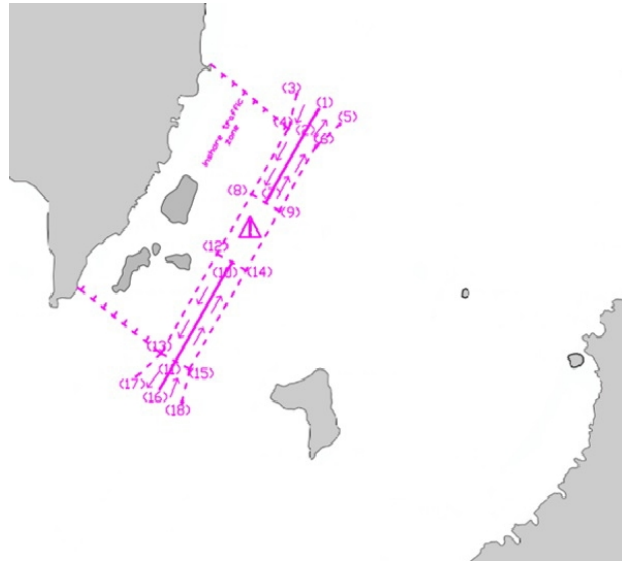


Fig. 2 TSS of Sunda Strait [11]

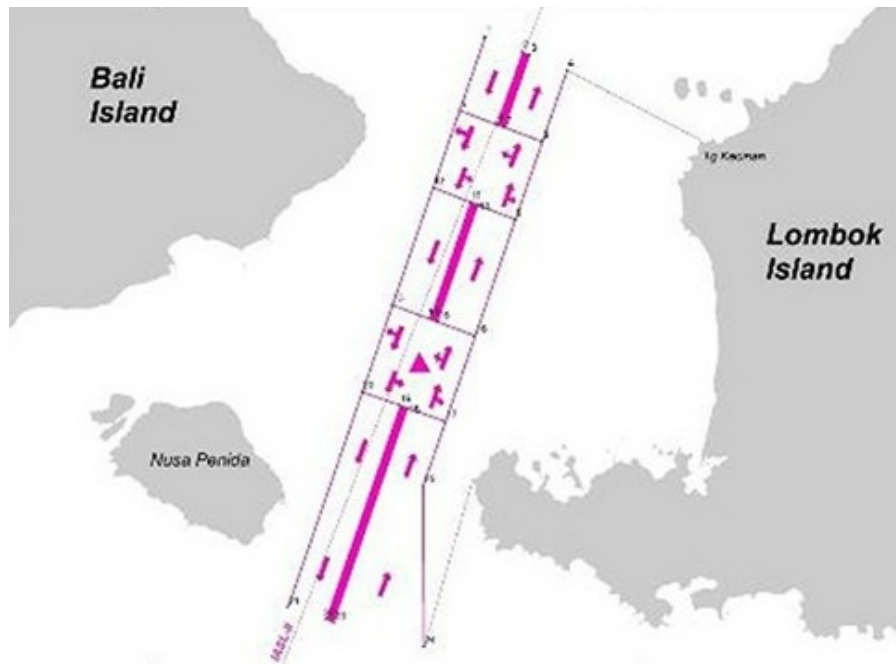


Fig. 3 TSS of Lombok Strait [11]

Article 22 (UNCLOS 1982) regulates navigation and TSS in territorial seas [10]:

- In paragraph 1, coastal states are asked to pay attention to navigation safety. Coastal countries can also require foreign ships exercising the right of peaceful passage through their territorial seas to use sea lanes and TSS as determined by the coast state and which must be followed for regulation of ship crossing.
- Paragraph 2, there are arrangements that tankers, nuclear-powered ships, and ships carrying nuclear weapons or other goods or materials due to their hazardous or toxic

nature may be required to limit their voyages to sea lanes.

- Paragraph 3 regulates the determination of sea lanes and the determination of TSS according to this article, the coastal state must pay attention to several things, namely: recommendations or suggestions from authorized international organizations; any channels commonly used for international navigation; special characteristics of certain vessels and channels; density of sea traffic.
- And in paragraph 4, it is stipulated that a coastal country must clearly state the sea lane and the TSS on the map which must be announced to ship users who cross the sea

lane.

Article 41 regulates sea lanes and TSS in straits that are used for international shipping [10]:

1. In accordance with the provisions in chapter 1, countries bordering the strait can determine sea lanes and establish TSS to be used for shipping in the strait if necessary, in order to increase the safe passage for ship users.
2. Such States may, when circumstances require, and after giving due publicity thereto, substitute other sea lanes or traffic separation schemes for any sea lanes or traffic separation schemes previously designated or prescribed by them.
3. Sea lanes and TSS must comply with international regulations.
4. Before establishing or changing sea lanes or establishing or changing TSS, countries bordering the strait must submit proposals to the competent international organizations. The organization can only accept sea lanes and TSS previously agreed with countries bordering the strait, after which these countries can determine or replace TSS or sea lanes.
5. With regard to a strait where a sea channel or a TSS is being proposed through two or more waters bordering the strait, the states must cooperate in formulating proposals in consultation with international organizations.
6. Countries bordering the strait must clearly list all sea lanes and TSS that are determined or determined on the map to be announced.
7. Vessels in transit routes are required to respect sea lanes and TSS that are in force and those stipulated in accordance with the provisions of Article 41.

Article 53 regulates the right of archipelagic sea lanes' passage [10]:

1. An archipelagic country can determine the sea lanes and flight routes which are suitable for the continuous and direct passage of foreign ships and aircraft as quickly as possible through or on the waters of the islands and territorial seas that are adjacent to them.
2. Every ship and aircraft may use the right of archipelagic sea lanes in the sea lanes and flight routes.
3. The archipelagic sea lane crossing is for the exercise of shipping and flight rights in accordance with the provisions of this Convention in the normal manner solely for continuous, direct and as fast as possible and unobstructed transit between one part of the high seas or an exclusive economic zone and part of the high seas.
4. Sea lanes and air routes must traverse archipelagic waters and adjoining territorial seas and include all normal cross routes used as routes or routes for international shipping or flights through or across archipelagic waters and within those routes, all routes normal navigation provided duplicating the same route with the same ease of entry and exit is not required.
5. Sea paths and flight routes must be determined by a series of continuous axes starting from the entrance of the crossing route to the outward place. Ships and aircraft crossing the archipelagic sea lanes may not deviate more

than 25 nautical miles to either side of the axis line, provided that the ships and airplanes may not sail or fly close to shore less than 10% of the distance between points closest to the islands bordering the sea channel.

6. An archipelagic country that determines sea lanes in accordance with this article may establish a TSS for safe ship crossing purposes through narrow canals.
7. An archipelagic country, if the conditions require, after such an announcement is made, can replace the sea lane or the TSS that has been predetermined or determined by sea lane or other TSS.
8. Sea lanes and TSS must comply with international regulations in general.
9. In determining or replacing sea lanes or TSS, an archipelagic country must submit proposals to the competent international organization with the intention of being accepted. The organization can only accept such sea lanes and TSS as agreed together with the island nation; after which, the island nation can determine or replace them.
10. The archipelagic state must clearly indicate the axes of the sea lane and the TSS which are determined on maps which must then be announced by that country.
11. Ships carrying out archipelagic sea lanes crossing must comply with sea lanes and TSS that applies as stipulated in this article.
12. If an archipelagic country does not determine sea lanes or flight routes, the rights of archipelagic sea lanes crossing can be exercised through routes normally used for international shipping purposes.

Looking at the provisions of the three articles above, especially in paragraph 6 article 53, Indonesia is justified in establishing a TSS for the purpose of safe traffic. In addition, if a country has established a TSS, then other countries must comply with these provisions. As this is stated in paragraph 11 of article 53 that ships which cross the archipelagic sea lanes must comply with sea lanes and TSS prevailing in the country, in this case Indonesia. The determination of TSS in Indonesia (Lombok Strait and Sunda Strait) is in accordance with the Theory of International Sea Law that the archipelagic state (Indonesia) must prioritize guaranteed shipping, but also must not contradict the sovereignty and safety of the island nation itself.

In accordance with the provisions of international law (UNCLOS 1982), Indonesia as a coastal country that sets TSS is very concerned about and considers the condition of the shipping lane width, ship dimensions and shipping traffic density. It is also can be found in the Regulation of the Minister of Transportation Number 129 Year 2016 Concerning Sea Lines and Buildings and/or Institutions in Water. In addition, when looking at the provisions in article 22 above, it is also in accordance with national regulations, namely in Government Regulation of the Republic of Indonesia No. 05 of 2010 concerning Navigation, precisely in article 15:

- 1) The captain who sails in Indonesian waters in certain areas must report all information through the nearest

beach radio station.

- 2) Certain regions as referred to in paragraph (1) include:
 - a. Waters of the Indonesian Archipelago Sea;
 - b. TSS flow;
 - c. Ship to Ship Transfer (STS) area; and,
 - d. Waters that have been determined by the Ship Reporting System (SRS).

As a follow up to the implementation of TSS in the Indonesian archipelago, IMO has issued a COLREG Rule 10: TSS, which regulates TSS stipulation which has been designed to follow IASL which can be used as a reference for the Indonesian government in implementing TSS in the Lombok Strait and the Sunda Strait. With all the preparations made by Indonesia to carry out the obligations stipulated in international law as an archipelago, namely by being proposed to the IMO and accepted by IMO for the procurement of TSS in the Sunda Strait and the Lombok Strait, Indonesia has become the first archipelagic state in the world that has a TSS system.

V. MARITIME SAFETY AND SECURITY

TSS is a guideline for maritime safety and security in Indonesia because TSS prioritizes shipping safety for ships crossing the area and with the presence of TSS can minimize the occurrence of ship accidents.

The Lombok Strait is a conservation area and the Sunda Strait is a place where Koliot corals grow, so with the TSS it is expected that ships will sail according to what has been determined and can avoid damage and pollution in the region. With this condition, it can protect the habitats in the waters of the Sunda Strait and the Lombok Strait which can help the welfare of fishermen with the preservation of the catch. In addition, stable coral growth will minimize the impact if a disaster is caused by ocean waves.

TSS in the Sunda Strait and the Lombok Strait can help supervising ships for well-organized and stay on track. TSS can provide a sense of safety and comfort of ships passing in the waters of the Sunda Strait and the Lombok Strait due to guaranteed navigation safety.

With the development of technology and economy in the shipping sector, it will cause increased traffic density in the Malacca Strait. Thus, world shipping will also shift to IASL I (Sunda Strait) and IASL II (Lombok Strait) as alternative routes. This situation will also increase the construction of port facilities, berths, stevedoring, logistics and food needs in the Sunda Strait and the Lombok Strait. Under these circumstances, TSS can improve maritime security which can reduce threats, disruptions and obstacles in terms of economic and social culture that is around the Sunda Strait and the Lombok Strait.

VI. CONCLUSION

International law (UNCLOS 1982) does not require and does not prohibit a coastal country to establish a TSS. Legally, Indonesia is justified in establishing TSS in IASL I (Sunda Strait) and IASL II (Lombok Strait) in maintaining maritime

safety and security in the waters of the islands and territorial sea. The legality of Indonesia as the first archipelagic state having a TSS is totally appropriate with the decision of the IMO International Plenary Session, the 6th NCSR Sub-Committee and was adopted at the IMO, 101st MSC session.

The Government of Indonesia will determine the TSS in accordance with COLREG 10 which is designed in accordance with IASL. TSS can be a guideline in managing shipping traffic in the Sunda Strait and Lombok Strait in order to minimize collisions, accidents and to maintain maritime safety and security in that region.

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REFERENCES

- [1] Marsetio, Indonesia Sea Power, Jakarta: Indonesian Defense University. 2014.
- [2] Sitohang, perbatasan Wilayah Laut Indonesia di Laut China Selatan: Kepentingan Indonesia di Perairan Natuna, Jakarta: LIPI Press. 2008.
- [3] M. H. Rusli, "Maritime Highways of Southeast Asia: Alternative Straits?," RSIS Comment., no. 024, 2012.
- [4] Lloyd's Register Rulefinder, 2005a. COLREGS - International Regulations for Preventing Collisions at Sea 1972, Rule 10, Traffic Separation Scheme.
- [5] International Maritime Organization (IMO), Guidance Note on the Preparation of Proposals on Ships' Routing Systems and Ship Reporting Systems for Submission to the Sub-Committee on Safety of Navigation. 2003.
- [6] Admin, "Indonesia Ajukan Penetapan Traffic Separation Scheme (TSS) Selat Lombok Dan Selat Sunda Ke IMO," Hubla.dephub.go.id, 2018. (Online). Available: [http://hubla.dephub.go.id/berita/Pages/indonesia-ajukan-penetapan-traffic-separation-scheme-\(tss\)-selat-lombok-dan-selat-sunda-ke-imo-.aspx](http://hubla.dephub.go.id/berita/Pages/indonesia-ajukan-penetapan-traffic-separation-scheme-(tss)-selat-lombok-dan-selat-sunda-ke-imo-.aspx). (Accessed: 11 December-2019).
- [7] Direktorat Jenderal Perhubungan Laut. 2019. Info Maritim: Indonesia, Negara Pertama di Dunia Miliki Bagan Pemisahan Alur Pelayaran. Media Internal: Jakarta.
- [8] Kresno Buntoro, "Burden Sharing: An Alternative Solution in order to Secure Choke Points within Indonesia Waters," Australian Journal of Maritime and Ocean Affairs 13, 2009, pp.122.
- [9] Kresno Buntoro, Lintas Navigasi di Nusantara Indonesia, Jakarta: PT Rajagrafindo Persada, 2014.
- [10] United Nations Convention on the Law of the Sea, 1982. (Online). Available: [https://en.wikisource.org/wiki/United_Nations_Convention_on_the_Law_of_the_Sea/Part_III_\(Accessed:12December-2020](https://en.wikisource.org/wiki/United_Nations_Convention_on_the_Law_of_the_Sea/Part_III_(Accessed:12December-2020) (Accessed).
- [11] Admin, "Sekilas Sistem Navigasi dan Pelaporan di TSS Selat Sunda dan Lombok" <https://jurnamaritim.com>, 2020. (Online). Available <https://jurnamaritim.com/sekilas-sistem-navigasi-dan-pelaporan-di-tss-selat-sunda-dan-selat-lombok/>. (Accessed: 21 July 2020).
- [12] Retno Safitri, "IMO Setujui Bagan Pemisahan Alur Laut Selat Sunda dan Selat Lombok" maritimnews.id, 2019. (Online). Available: <https://maritimnews.id/imo-setujui-bagan-pemisahan-alur-laut-selat-sunda-dan-selat-lombok/> (Accessed: 11 December-2019).