Navigational Safety In The Straits Of Malacca: Current and Future Concern

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Introduction

Safety of navigation focuses on issues of security, loss of life, property and environmental protection.

Statistics shows that 62,334 ships of various types participated in STRAITREP and reported to Klang VTS in 2003.

The greater number of ships plying in a strait means more risk especially when such ships are concentrated at “choke points”. It is reasonable to assume that traffic in the Straits will increase. What can or should be done to cope with an escalation in traffic volume.

Therefore managing and reducing risks in the Straits will require concerted efforts among user and bordering littoral states.
Profile

Straits of Malacca is one of the busiest strait in the world.

The straits stretches from Pulau Sembilan to Tanjung Piai for a distance approximately 241 nautical miles.

The narrowest waterway is in between Port Dickson (Malaysia) and Tanjung Medang (Indonesia) that is 22nm.
Statistic - Vessel Using The Straits Of Malacca.

- In year 2001 vessels recorded 59,314.
- In year 2002 vessels recorded 60,034.
- In year 2003 vessels recorded 62,334.
REPORTS IN 2003 BY SHIP TYPE

- Container: 31.40%
- Bulk: 10.04%
- Passenger: 4.87%
- Others: 7.77%
- VLCC: 5.59%
- Gen. Cargo: 9.94%
- LNG/LPG: 5.26%
- Tankers: 25.13%

Marine Department Malaysia
STRAITREP PARTICIPATION IN 2003

NON-REPORTING SHIP
1.3 %

REPORTING SHIP
98.7 %
As the traffic volume grows, it is anticipated that the likelihood of accidents and pollution will rise too. Thus implementing portion of international law requiring user states to cooperate in implementing navigational safety in the Straits is the concern of all shipping communities.

Managing and reducing pollution risks in the Straits will require concerted efforts among user and bordering littoral states. Such efforts must be directed toward compliance with international conventions on marine pollution and navigational safety, development of pollution preventive and mitigating measures, and the allocation of funds and manpower resources to implement them.
It is important that we should be looking at ways of reducing accidents, not as a vague aspiration but as a perfectly legitimate and logical ambition.

The littoral states have invested a great deal of time and effort in promoting, maintaining navigational safety and controlling pollution in the Straits, it is an on going challenge for Malaysia, Indonesia and Singapore.
To enhance navigational safety in Malacca Straits

What can be done

(Littoral States):

Work actively side by side with the shipping community to ensure safe navigation in the straits of Malacca.

Use TTEG forum as a platform to voice out differences among member states.

Find new means and ideas in improving the traffic flows such as studies on sandbar, tidal and current tables.

Upgrading the existing surveillance and monitoring equipments.
ROLES OF MARINE DEPARTMENT -

To determine that the straits of Malacca is navigationally a safe place to sail, in accordance with the objective of the Department.

“To determine a system for safe sea lanes of communication and marine conservancy towards the enhancement of national maritime development”.
Marine Department believes that prevention is better than cure and the best measure is through enhancing navigational safety.

For that reason Marine Department has introduced many measures to enhance navigational safety such as:

- Established Operational Centre
- Established monitoring system
- Work actively with the shipping community to ensure safe navigation in the Straits.
Established Operational Centre

- announcement for any navigational warning and also to acts immediately for any cases of emergency situation at sea.

- Continuous monitoring (24hrs) on the safety of navigation.
Cont:

Navigational Safety - Monitoring System In The Straits

- STRAITREP
- TSS
- COMMUNICATION
- AIS
STRAITREP is a mandatory ship reporting system in the Straits of Malacca and Singapore.

APPROVED AT THE IMO, SUB-COMMITTEE ON SAFETY OF NAVIGATION 43RD SESSION.

ADOPTED AT THE IMO, MARITIME SAFETY COMMITTEE 69TH SESSION.

ENTERED INTO FORCE AT 0000 HOURS UTC ON 1 DECEMBER 1998.
Straits Rep - which is provided for under the International Convention for Safety of Life at Sea (SOLAS) has contribute towards

- navigational safety,
- efficiency of navigation
- and the protection of the marine environment in the Straits.
VESSEL TRAFFIC SERVICES (VTS)

- STRAITREP will facilitate and enhance identification and communication between ships and shore-based authorities. This will enable shore-based authorities to advise transiting ships on the traffic situation in the Straits, as well as contribute positively towards search-and-rescue (SAR) operations and responses to marine incidents.
GEOGRAPHICAL COVERAGE
TRAFFIC SEPERATION SCHEME

The introduction of TSS is to improve the safety of navigation in converging areas and in areas where the density of traffic is great or where freedom of movement of shipping is inhibited by restricted sea-room, the existence of obstructions to navigation, limited depths or unfavorable meteorological conditions.

The establishment of the system is to facilitates traffic movement.

The objective is to avoid a close quarter situation between vessels.

The simplification of the patterns of traffic flow in converging areas;
# ACCIDENTS IN TSS (2001 - 2003)

| Types of Ships                     | 2001 | 2002 | 2003
|-----------------------------------|------|------|------
|                                   | Sunk | On fire | Collision | Sunk | On fire | Collision | Sunk | On fire | Collision |
| Fishing Boat                      | -    | - | - | 1 | 1 | - | 3 | - | - |
| Barter Trader                     | -    | - | - | 5 | - | - | 2 | - | - |
| Commercial vessel and others      | -    | 1 | 6* | - | 1 | 1 | - | - | 4 |
| Total                             | 7    | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

*2 CASES INVOLVED FISHING BOAT.

RECORD OF TRAFFIC

2001: 59,314
2002: 60,034
2003: 62,334
COMMUNICATION IN THE STRAITS OF MALACCA

Exchanges of information are of key importance for ships and with regards to this point, processing of information flows about navigational safety is important.

- The GMDSS emphasizes the ability to alert search and rescue authorities ashore as well as shipping in the vicinity in order to achieve a rapid coordinated response to distress situation.

- GMDSS supports systems for broadcasting MSI (Marine Safety Information to ships such as NAVTEX and DIGITAL SELECTIVE CALLING (DSC))
1. NAVTEX

Narrow Band Direct-Printing telegraphy system for transmission of navigational and meteorological warnings and urgent information to ship.
Frequency NAVTEX 518 kHz

2. DIGITAL SELECTIVE CALLING (DSC)

A technique using digital codes which enables a radio station to establish contact with, and transfer information to, another stations or group of stations utilizing HF, MF and VHF bands.

DSC channels:
MF DSC - DISTRESS AND SAFETY CHANNELS 2187.5 (kHz)
VHF DSC - DISTRESS AND SAFETY CHANNELS
VHF marine channel 70 - (156.525 MHz)
STRUCTURE OF NAVTEX SERVICES

NAVIGATIONAL WARNING CO-ORDINATOR

METEOROLOGICAL MESSAGE CO-ORDINATOR

SEARCH AND RESCUE CO-ORDINATOR

NAVTEX CO-ORDINATOR (Jab Laut-MRCC)

NAVTEX BROADCAST STATION
COMMUNICATION COVERAGE AREA

VHF DSC COAST STATION (A1)

Gunung Jerai
Kuala Terengganu
Gunung Berinching
Bukit Kemuning
Ulu Kali
Kuala Rompin
Gunung Ledang
Machang
Pulau Tioman
SHIPBORNE AUTOMATIC IDENTIFICATION SYSTEM (AIS)

AIS IS INTENDED TO ENHANCE:

- Safety of life at sea;
- The safety and efficiency of navigation;
- The protection of the marine environment.
The AIS can be used as a positive, all-weather position indicator making the environment for the navigator easier and safer.

The AIS can be used as a complement or in a near future maybe even replace the RACON.

The AIS can be used to monitor the status of AtoN.
The IMO has established mandatory carriage requirements for approved AIS equipment under the Safety of Life at Sea (SOLAS) Convention.

SOLAS REGULATION V/19

AIS Carriage requirements

The SOLAS Convention requires AIS to be fitted on certain ships through a phased implementation period spanning from 1\textsuperscript{st} July 2002 to 1\textsuperscript{st} July 2008

All ships of 300 gt and upwards engaged on international voyages

Cargo ships of 500 gross tonnage and upwards not engaged on international voyages

All passenger ships irrespective of size

All new builds must be fitted with an approved AIS after July 1, 2002

Existing ships not engaged on international voyages constructed before July 1, 2002, must be fitted not later than July 1, 2008.
Summary: measure to be taken to enhance navigational safety (current/future)

Establish:

- Navigational aids either visible and electronically
- Common Chart Datum
- ENC/MEH
- Tidal and Current Studies Table
- Identify and Inspection of dangerous areas (Dangerous Wreck and Shoal)
- AIS
- VTS
- GMDSS
CONCLUSION

it is possible to improve navigational safety - but only if all the littoral states consider the possibilities offered by the technology now available.

the user states are willing to share the burden and change some of the attitudes that still linger on from the past. Just as the users benefit from the Straits, they too should help in its maintenance and upkeep.