

**International
Chamber of Shipping
survey to Assess
Navigation Related
Accident and
Incident Reports in
The Malacca and
Singapore Straits**

**John Murray, Director, Marine, ICS
5th Co-operation Forum
September 2012**



In support of the goal of improving navigational safety and environmental protection, the littoral States of Indonesia, Malaysia and Singapore agreed to conduct a survey of existing accident and incident reports for the Malacca and Singapore Straits.

The International Chamber of Shipping (ICS) acting on behalf of the Round Table of international shipping associations (RTisa) conducted the survey.

Initial results were reported in October 2011, more reports have been received and a further update is provided.

Context of accident and incident survey:

- More than 150 ship transit the Malacca and Singapore Straits daily. In 2007 over 70,700 ships of all types transited *One Fathom Bank*
- That this number of ship movements takes place with very few major incidents is testament to the Port and Coastal Administrations who manage these essential waterways, as well as to the skill and professionalism of those managing, operating and manning these ships
- The accidents and near miss incidents reviewed comprise a very small proportion of the overall shipping movement in these areas

Three phases to survey

Phase 1: Data Gathering

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- Nov 2010 to Feb 2011
- Requests for reports/other information regarding navigational related accidents and incidents in the Malacca and Singapore Straits
- Returned reports collated
- More received in 2012



Phase 2: Assessment of High-Risk Areas and Factors in the Straits of Malacca and Singapore

- March to July 2011
- Assessment of reports and other information received against factors agreed by TTEG/CF (October 2010)
- Summarising of findings for submission to the TTEG/CF (October 2011/2012)
- Revision of findings after receipt of more reports

RT19a SAFETY OF NAVIGATION IN THE STRAITS OF MALACCA AND SINGAPORE INCIDENT (CONTRIBUTORY FACTORS) REPORT FORM

Section A
Details relating to individual ships will remain confidential and will not be publicly available.
This document invites reports of non-personal related incidents in the Malacca and Singapore Straits. It should be used judiciously where a flag or coastal state report may not be available. Information provided will contribute to a survey being conducted by ICSS on behalf of IMO/MSA. Malaysia and Singapore. You are requested to complete the form as far as is possible but in any case to submit whatever information can be made available.

Section B (ICSS Use only)
Please return completed form to:
John Martin
Director Marine
ICSS
12 Clifferton Street
London
EC1M 6JZ
e-mail: john.martin@icssmar.org

Identifying Details
Date of Incident: 01/01/2011
Name of Vessel: [blank]
Type of Vessel: [blank] Time of Incident: 01:00
Vessel Condition: Loaded ☐ Flag of vessel: [blank]
Direction of Travel: East to West ☐ Tonnage DWT/Tons: [blank]
Location of Incident: In: Port Inland ☐ Head to East ☐ Status: [blank] Other: [blank]
In: Gulf of Thailand ☐ Head to East ☐ Status: [blank] Other: [blank]

Daylight
Light: [blank] Visibility: [blank] Sea State: [blank]
Sea Class: [blank] Moderate: [blank] Moderate: [blank] Wind Force: [blank]
Day: [blank] Poor: [blank] Rough: [blank] Force 0-3: [blank]
Force 4-6: [blank]
Force 7-9: [blank]
Wind Direction: [blank]

Consequences of Incident (tick as many boxes as apply - See Section C)
☐ Collision ☐ Injury ☐ Other: [blank]
☐ Grounding ☐ Pollution ☐ Other: [blank]
☐ Near miss ☐ Pollution

When paper starts

Phase 3: Measures to Manage Traffic in the Straits of Malacca and Singapore

- Following consideration of the report submitted by ICS, the littoral States will address the next stage of the project
- Anticipated development of proposals to enhance the management of Traffic in the Straits of Malacca and Singapore



Project Results:

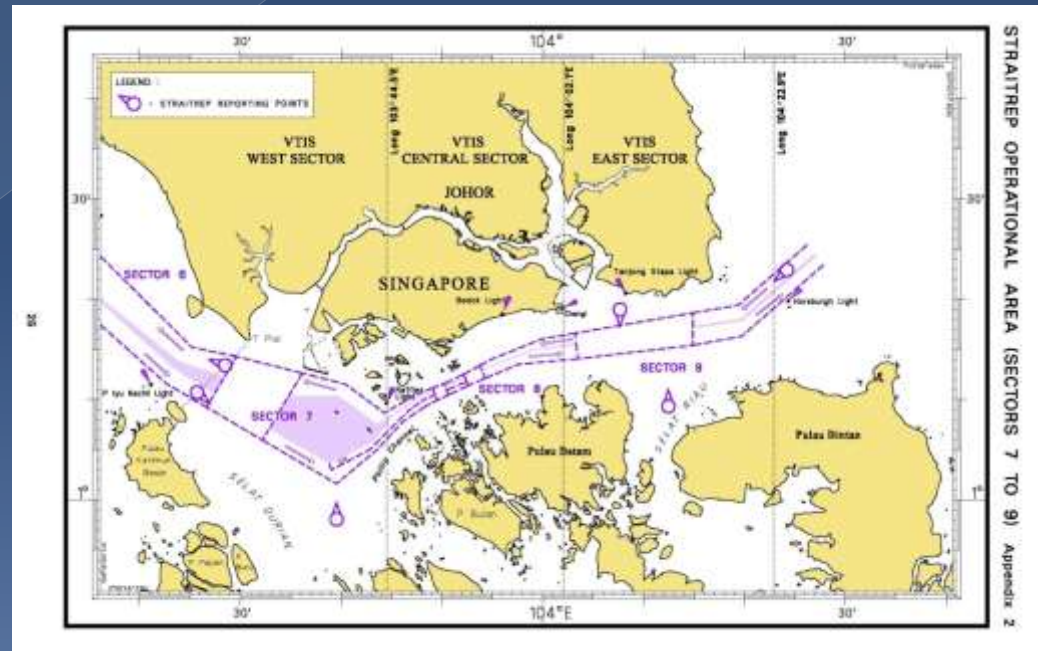
- 39 Reports received - sufficient sample?
- Range of ship types - tugs to tankers
- Range of ship sizes

Reports received from:

- Industry
- Port Authority (MPA)
- Malaysia
- Accident investigators*

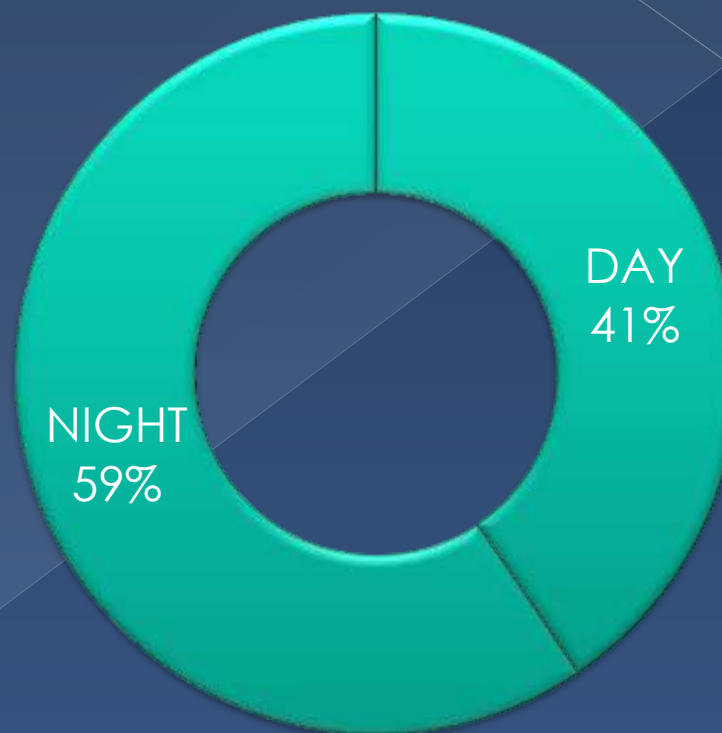
Reports primarily for:

- Singapore Strait



Time of Day:

- 37 reported day or night
- More night time incidents

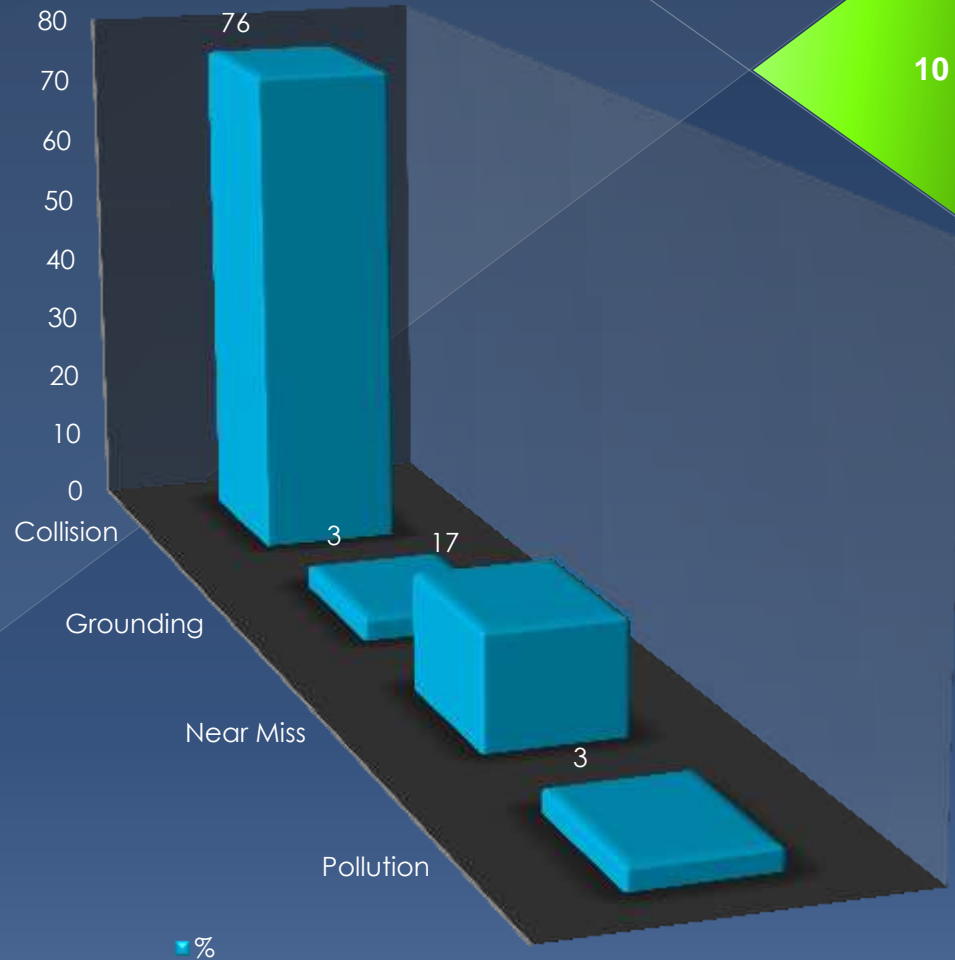


Visibility:

- Backscatter was a factor
 - light blindness
- Significant majority of reports - good visibility
- Lookout and situational awareness significant factor

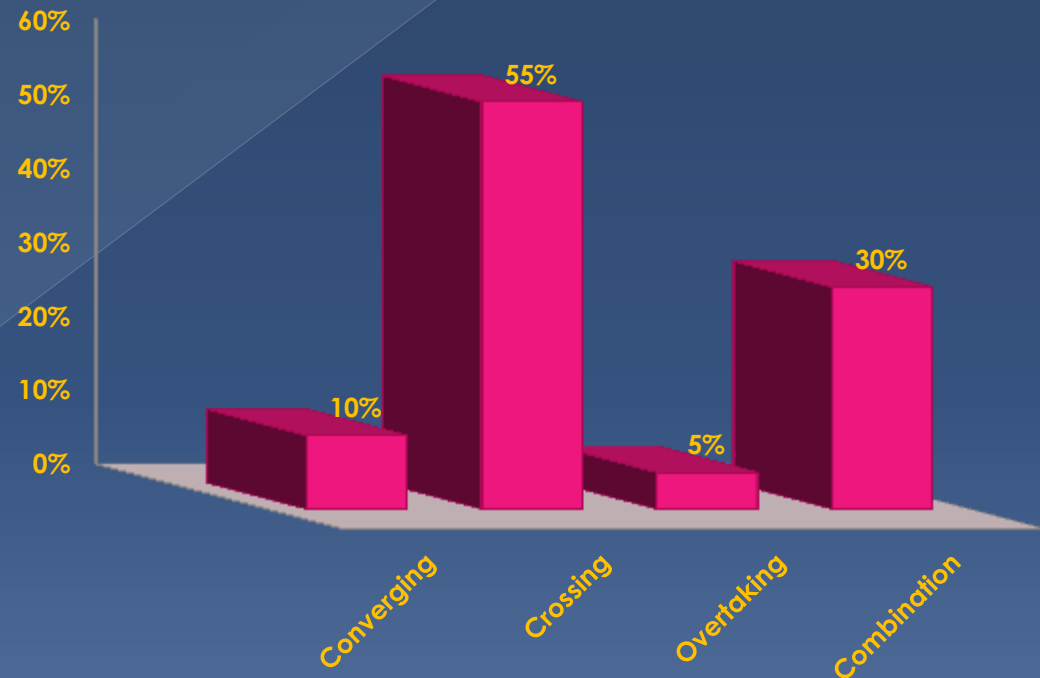
Incident types:

- Significant majority 76% - collision
- Very encouraging that pro-active reporting (17%) extended to near miss incidents
- All could have caused harm and or pollution



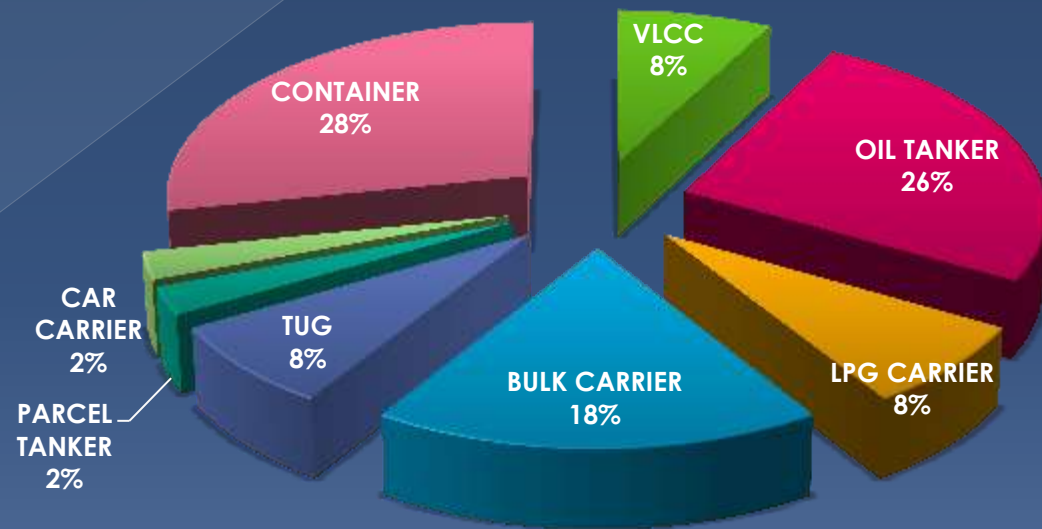
Traffic situation:

- Traffic and its impact widely reported as factor
- Crossing traffic highest incidence factor
- Access to pilot boarding and bunkering areas of concern
- Excessive speed cited as of concern
- Situational awareness



Vessel Size and Type:

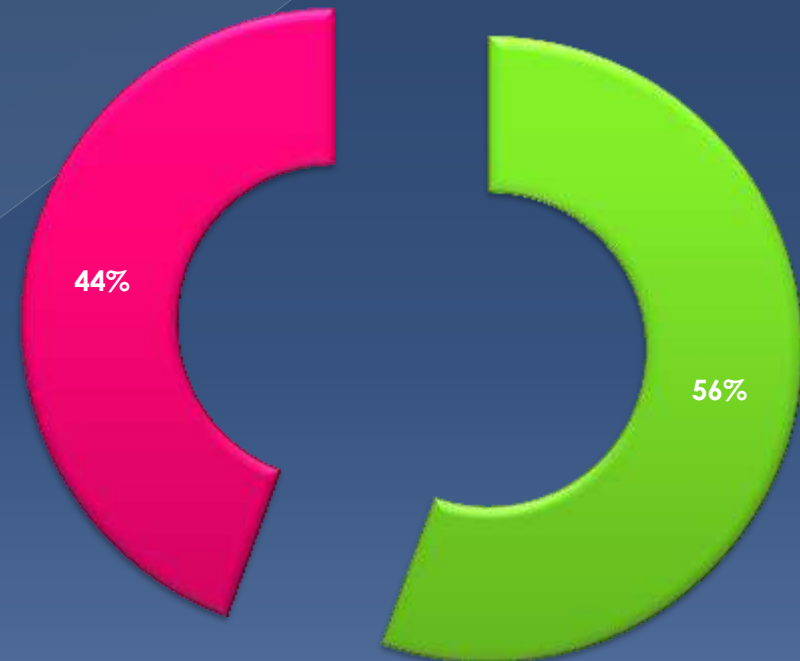
- Sample size may be a factor
- However, results suggest larger slower ships (Oil Tankers and Bulk Carriers) may be at risk due to their manoeuvrability
- Speed might also be a factor with Container ships



Pilotage:

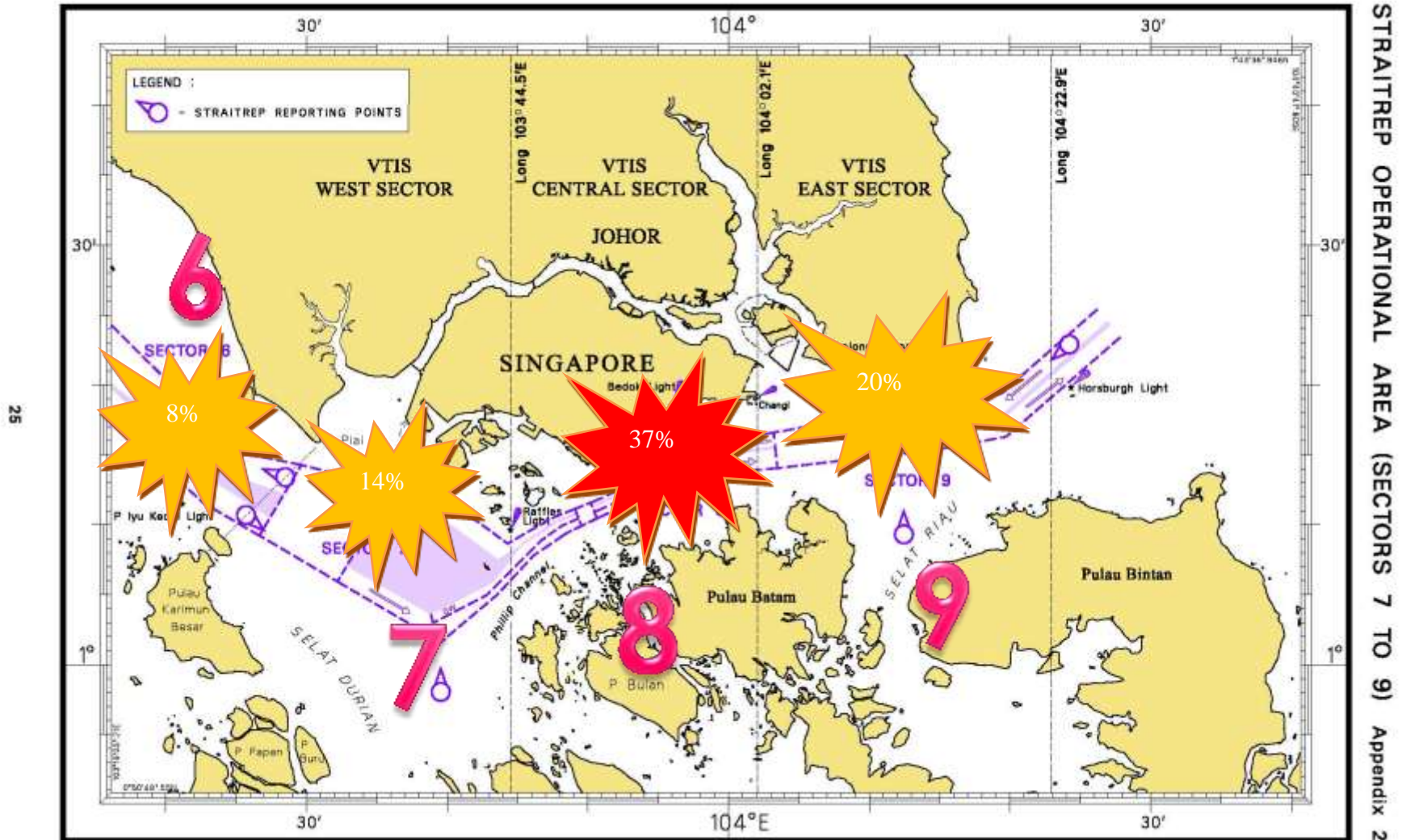
- 9 reports provided information on pilotage factors
- Majority of incidents (56%) not under pilotage
- Location of pilot boarding areas remains a matter of concern to shipping
- Vessels frequently need to cross routing measure to pick up pilot and then resume passage

■ Under Pilotage ■ Not Under Pilotage



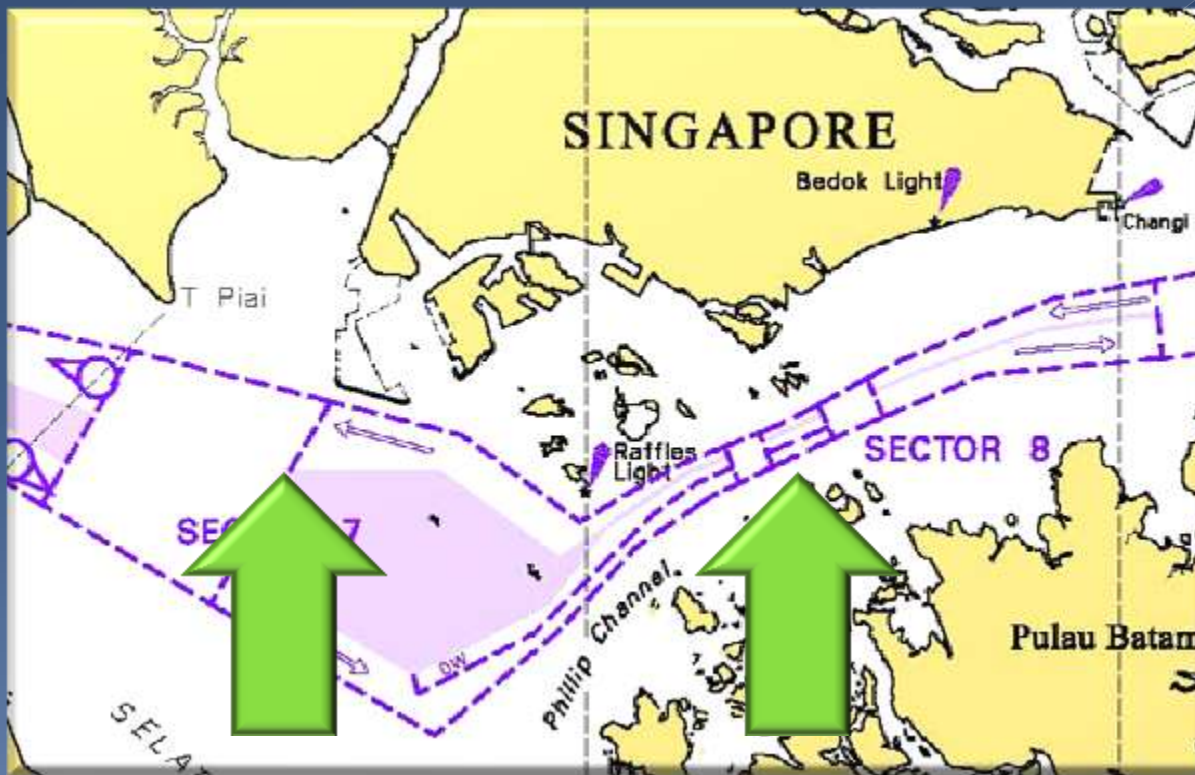
Incidents mainly reported in Singapore area – Sectors 7, 8 and 9

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Locations (continued):

Incidents particularly in vicinity of pilot boarding areas



WESTERN A

EASTERN A

Review of accidents, near miss incidents or pro-actively expressed concern identifies the following issues:

1. Pilot boarding areas **and bunkering areas/anchorages** to be considered to avoid need for routing measure to be crossed merely to pick pilot up
2. Excessive speed was a factor in many incidents and **perhaps manoeuvrability in high traffic volume and slow speed areas (pilot boarding/anchorages)**
3. Vessels should be ready to manoeuvre immediately
4. Situational awareness was generally lacking – compounded by poor lookout, poor BRM and frequent failure to follow local and international regulations (COLREGS)

Review of accidents, near miss incidents or pro-actively expressed concern identifies the following issues:

5. Interaction between vessels and VTS was questioned
6. Understanding and use of modern navigation systems was frequently poor (ECDIS/AIS/Radar)
7. Coordination of pilots, tugs and berth availability
8. Indiscriminate anchoring



Noting that the ICS survey identified 8 particular issues, it is proposed that:

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A. The littoral States further consider how to address the identified issues:

- Concern regarding speed in Singapore Straits
- Traffic around pilot boarding areas, bunkering areas and anchorages
- Optimum pilot departure time
- Improved VTS/VTIS interaction with shipping
- Situational awareness particularly in congested waters
- Pilot, tug, berth availability integration
- Identify if manoeuvrability is an issue in congested areas (pilot boarding, bunkering, anchorages)

Noting that the ICS survey identified 8 particular issues, it is proposed that:

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B. The littoral States further consider and confirm:

- Approval of the ICS review
- Objective of further project work – such as goal of increased traffic with reduced incident rate
- Agreed route to achieve objective



Proposed further consideration by littoral States of identified issues

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1. Pilot boarding - east bound ships heading for pilot in PEBG B* area:
 - Reduce speed, seek clear slot to cross westbound lane, increase speed, at pilot pick up, high traffic volumes and strong current make manoeuvring problematic ★
 - Pilots frequently disembark early (to pick up next vessel) before master has achieved situational awareness ★
- Pilots to board in east bound lane to reduce TSS crossing and high traffic volumes at pilot pick up points
- Pilots to remain onboard until masters have full situational awareness

Proposed further consideration by littoral States of identified issues

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2. & 3. Excessive speed is a factor in many incidents:

- In a grounding incident - speed was a significant factor
- Disparity in speeds of large vessels manoeuvring in areas of TSS
- High speed incompatible with varying nature of TSS
- Speed of some vessels relies on other vessels action to avoid collision
- All ships to comply with '*Guidance*' for speed in Singapore straits, VTS to monitor
- Manoeuvring speed requirement within entire TSS with 'cap' on maximum speed
- Advice to IMO and measures applied

Proposed further consideration by littoral States of identified issues

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4. Situational awareness – common phrase with a variety of elements and failure paths, including:
- Lack of familiarity with area, equipment, environmental conditions or procedure
 - Complacency
 - Communication difficulties
 - Fatigue/Stress*
 - Failure to maintain lookout
 - Workload
 - Light-Blindness
 - BT and BRM training
 - ISM audit?
 - Role of VTS/VTIS
 - ECDIS training
 - Radar/AIS
 - COLREGS
 - Passage Plan
 - Environment
 - Lookout

Proposed further consideration by littoral States of identified issues

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5. Communications – Ship to Shore and Shore to Ship (VTS/VTIS):

- Communication with VTS problematic (Malacca Strait)
- Lack of awareness of ship's perspective/marine operational perspective by VTS
- Proactive VTS activity is limited by regulation (UNCLOS etc)
- Contactable* VTS
- Proactive engagement
- Communication practices/clarity of language/timing of communication
- VTS to improve advice regarding lack of compliance
- Report to PSC and Flag

Proposed further consideration by littoral States of identified issues

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6. Inappropriate use of AIS or Radar:

- AIS incorrectly programmed
- AIS incorrectly installed
- AIS used as primary navigational system
- AIS is an excellent aid but is not a navigation system
- Lack of understanding that AIS use is not universal - non SOLAS vessels etc
- PSC
- Information campaigns
- BT and BRM training
- VTS monitoring
- Submission to IMO regarding misuse of AIS and failure of COLREG compliance

Proposed further consideration by littoral States of identified issues

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7. Infrastructure coordination:

- Having made pilot boarding time vessels made to hold waiting for tug/berth availability – high traffic volumes and collision risk
- Improved integration between PA, pilots and tugs to reduce slow manoeuvring close to transiting vessels



~~8. Indiscriminate anchoring:~~

- ~~• Anchoring in TSS precautionary area significantly reduces safe navigation channels~~
- ~~• Authority to monitor compliance in precautionary area~~
- ~~• Authority and PSC to enforce compliance~~

Proposal for further ICS role

ICS could facilitate conduct of further survey(s)*:

- To target Indonesian waters – current survey has no reports for these areas
- Further survey of Singapore Straits to investigate specific identified issues?
- Survey template could be amended/developed
- Particular issues such as excessive speed, situational awareness or VTS options could be further investigated
- Workshop for masters, superintendents, VTM, Administrations, IHO etc

Proposal for further ICS role

ICS could work with littoral States:

- To review potential actions **marked** to determine which authority/body or other course of action may be most appropriate to address issues identified
- Participate on behalf of shipping industry in order to further develop resolution of issues/proposals.



Thank You

