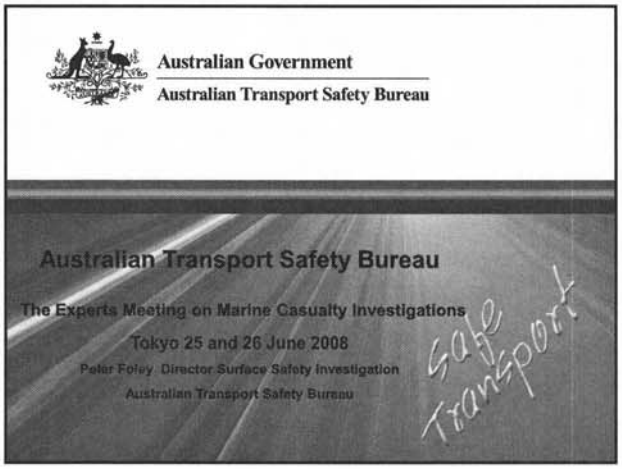
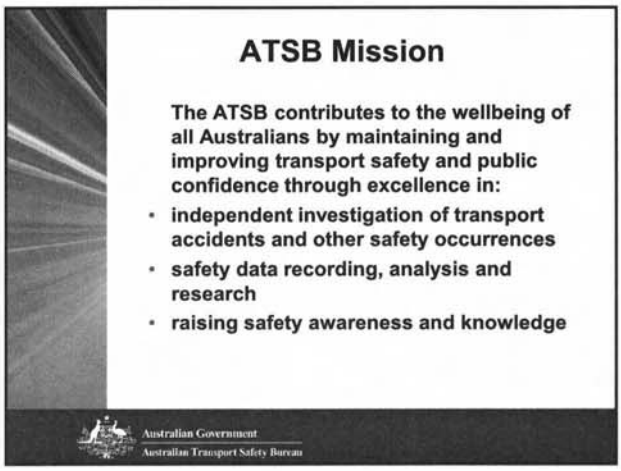
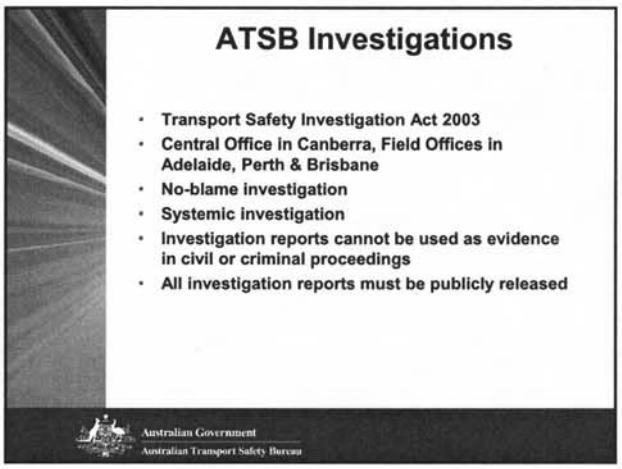
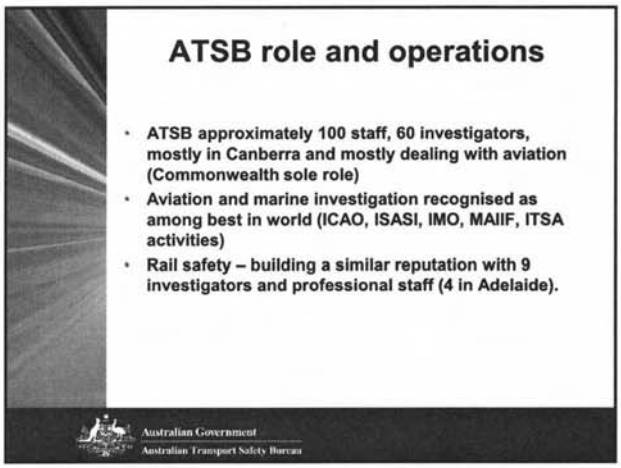
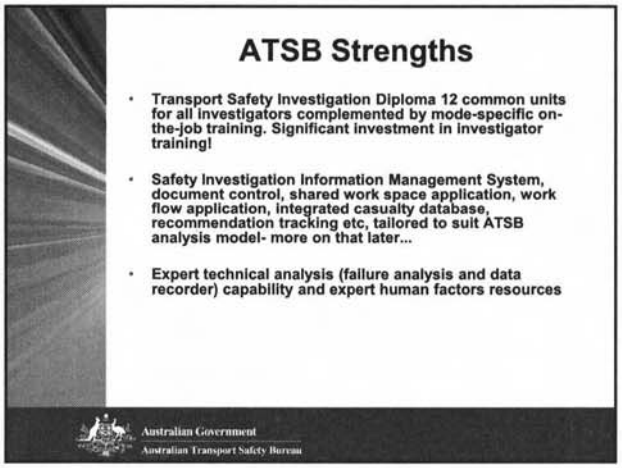
# 4　各国等のプレゼンテーション
## (1) オーストラリア



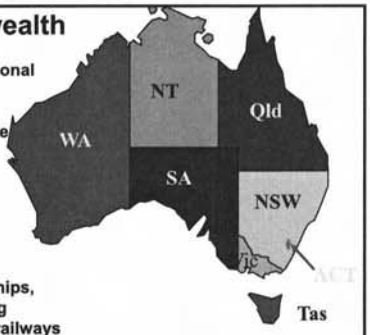




## Commonwealth

Aviation, international and interstate shipping, GBR Pilotage, interstate trains




## States

State trading ships, pilotage, fishing vessels, State railways

**Australian Transport Context**

Australian Government
Australian Transport Safety Bureau

## Australian Maritime Safety Authority

- the regulator

## Australian Transport Safety Bureau

- the independent investigator

Australian Government
Australian Transport Safety Bureau

## Marine Investigation Unit

**Five investigators drawn from the nautical and engineering disciplines**

**Jurisdiction includes:**

- Australian flag ships
- foreign ships in our Territorial waters
- ships with an Australian crew
- evidence may be found in Australia

**Constitutional limitations exclude smaller commercial vessels and recreational craft which are registered and trade intrastate**

Australian Government
Australian Transport Safety Bureau

## Groundings

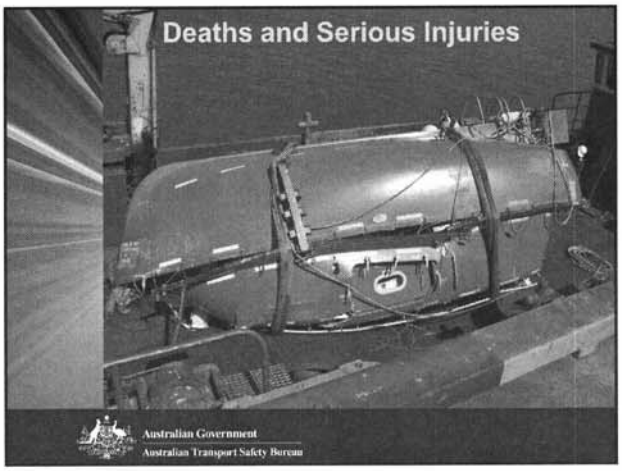
Australian Government
Australian Transport Safety Bureau

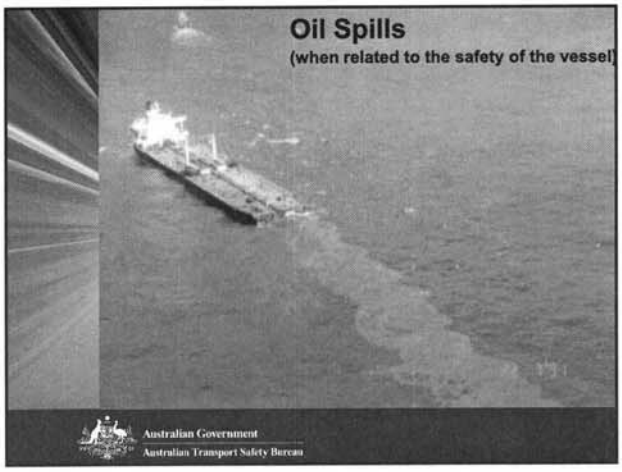
## Collisions

Australian Government
Australian Transport Safety Bureau

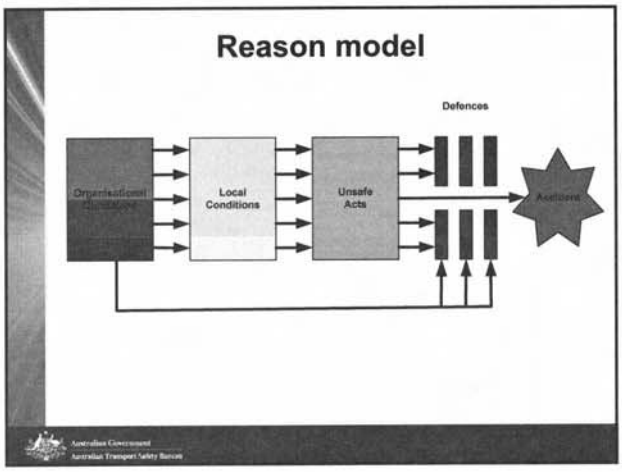
## Fires and Explosions

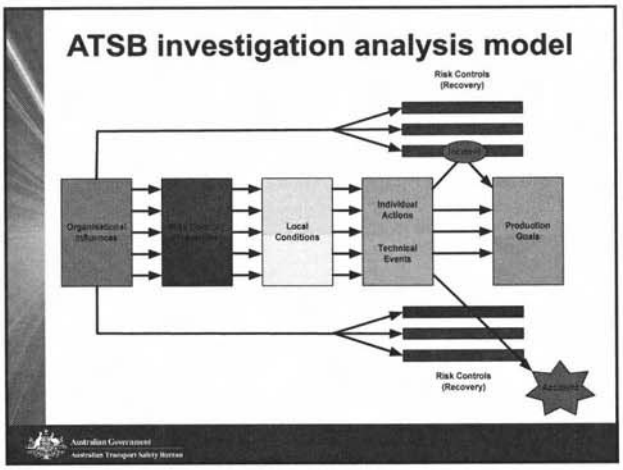

Australian Government
Australian Transport Safety Bureau

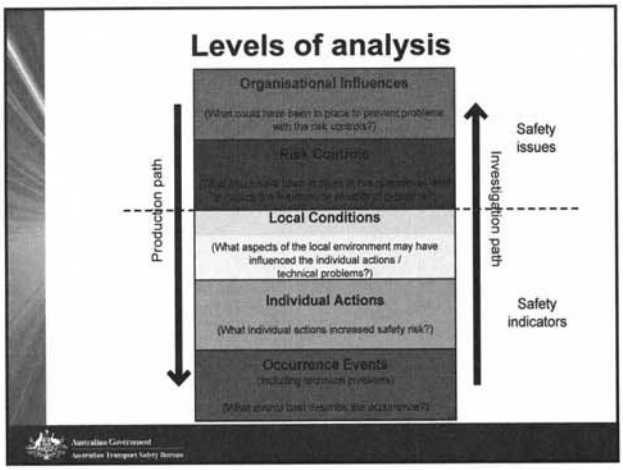

Deaths and Serious Injuries
Australian Government
Australian Transport Safety Bureau


Oil Spills
(when related to the safety of the vessel)
Australian Government
Australian Transport Safety Bureau


Safety issues which may endanger the ship
eg. Cargo/loading
Australian Government
Australian Transport Safety Bureau


Reason model
Defences
Local Conditions
Unsafe Acts


ATSB investigation analysis model
Risk Controls (Recovery)
Local Conditions
Individual Actions
Technical Events
Production Goals
Risk Controls (Recovery)


Levels of analysis
Organisational Influences
Local Conditions
(What aspects of the local environment may have influenced the individual actions / technical problems?)
Individual Actions
(What individual actions increased safety risk?)
Occurrence Events
Production path
Investigation path
Safety issues
Safety indicators

## International Co-operation

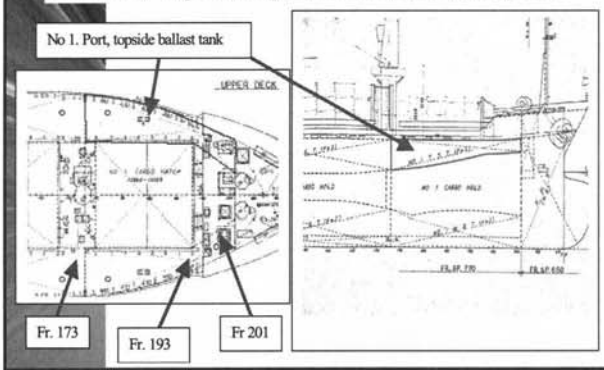
- ATSB has performed joint investigations in the past with other flag authorities notably:-
- Hong Kong on *Nego Kim* and *Lowlands Grace* in 2001 and 2004
- Marshall Islands on *Probo Bear* and *Van Gogh* in 2006 and 2007
- On-going work with Indonesia's National Transportation Safety Committee to deliver training, mentoring of investigators and on-the-ground investigation assistance in Marine and Aviation investigations

Australian Government
Australian Transport Safety Bureau

## *Nego Kim* 18 November 2001

Australian Government
Australian Transport Safety Bureau

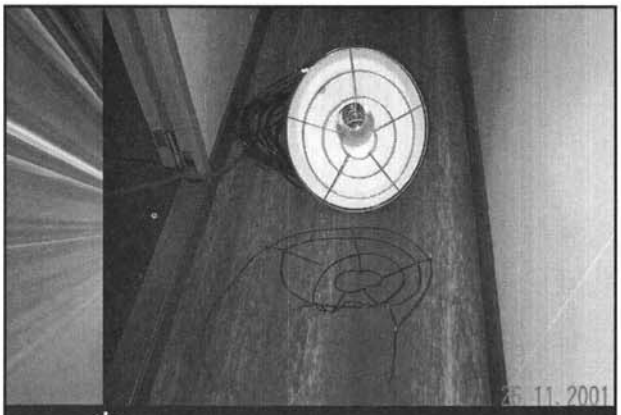
## Number 1 port topside ballast tank plan



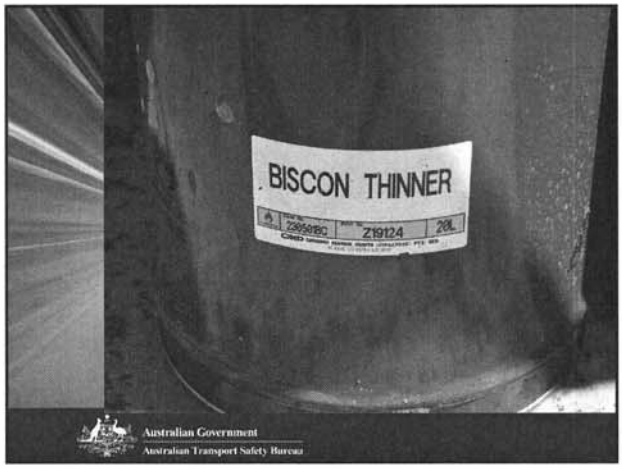

Australian Government
Australian Transport Safety Bureau

Australian Government
Australian Transport Safety Bureau

Australian Government
Australian Transport Safety Bureau




Australian Government
Australian Transport Safety Bureau




## Paint constituents

| Compound | Flammability Limit % by volume in air | Flash Point (°C) | Vapour Density (Air = 1) | Auto-ignition temperature (°C) |
|---|---|---|---|---|
| Toluene | 1.1 – 7.1 | 4 | 3.14 | 480 |
| Xylene | 1.1 – 7.0 | 27 | 3.7 | 527 |
| N-butanol | 1.7 – 9.8 | 29 | 2.6 | 345 |
| Isobutanol | 1.7 – 10.9 | 28 | 2.6 | 415 |

Australian Government
Australian Transport Safety Bureau




## Investigation conclusions

- Explosion was caused when paint vapours were ignited inside the tank
- Proximal factors included: poor ventilation, use of excess thinners, high ambient temperature, use of non intrinsically safe equipment, lack of appropriate functioning gas analysis equipment

The ship management company contributed by:

- Failing to recognise the risks associated with the operation and provide appropriate instructions
- appropriate equipment, or even an MSDS for the paint

Australian Government
Australian Transport Safety Bureau

## Co-operation with Hong Kong

- Early notification of the accident
- Decision by Hong Kong Marine Authority to send an investigator
- Liaison and sharing of evidence on the ground to the maximum extent possible
- Later sharing of analysis work
- Draft reports shared
- Release of final reports co-ordinated

Australian Government
Australian Transport Safety Bureau

## Co-operation under the Casualty Investigation Code

- Facilitated by Memorandum of Understanding
- Early notification of intent to investigate
- Sharing of information to the extent practicable throughout investigation
- Points of contact for progress updates
- Flag Authorities to receive copies of draft reports for comment as an "interested party" and to facilitate early safety action
- Flag Authorities to receive final reports
- Coordination of IMO reporting

Australian Government
Australian Transport Safety Bureau

Australian Government
Australian Transport Safety Bureau

## Questions?

Safe Transport

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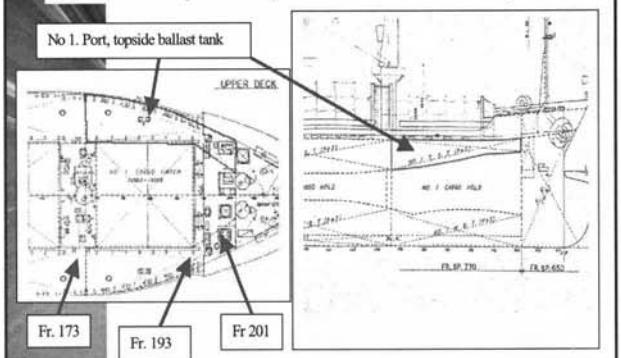
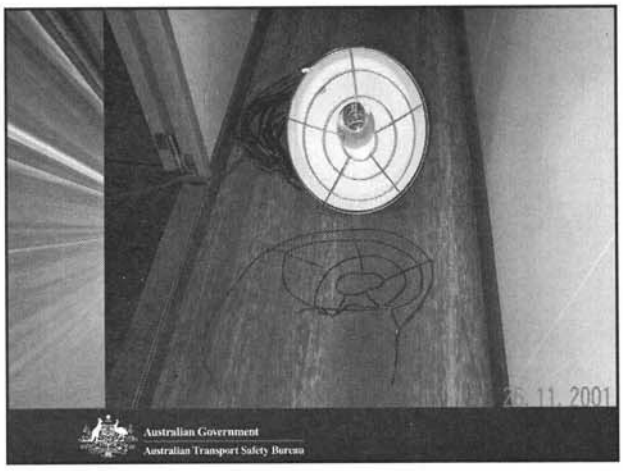


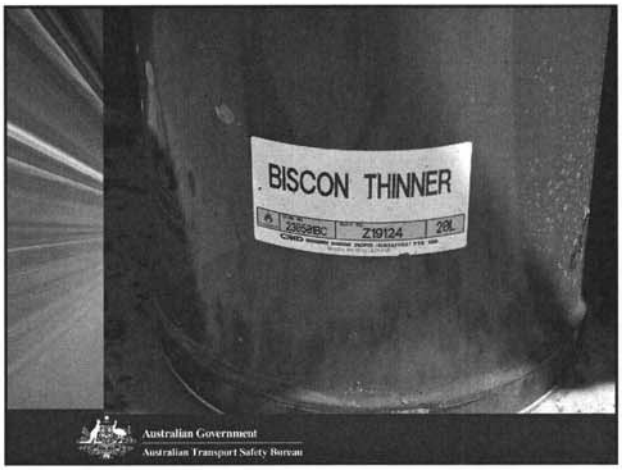

Australian Government
Australian Transport Safety Bureau

Australian Government
Australian Transport Safety Bureau

Australian Government
Australian Transport Safety Bureau




Australian Government
Australian Transport Safety Bureau

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- Coordination of IMO reporting

Australian Government
Australian Transport Safety Bureau

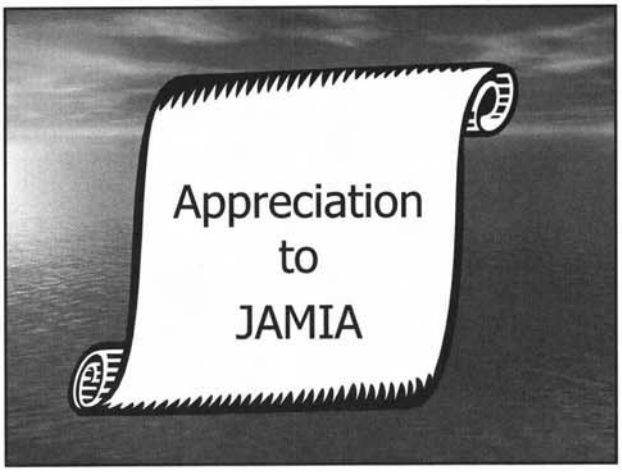
Australian Government
Australian Transport Safety Bureau

## Questions?

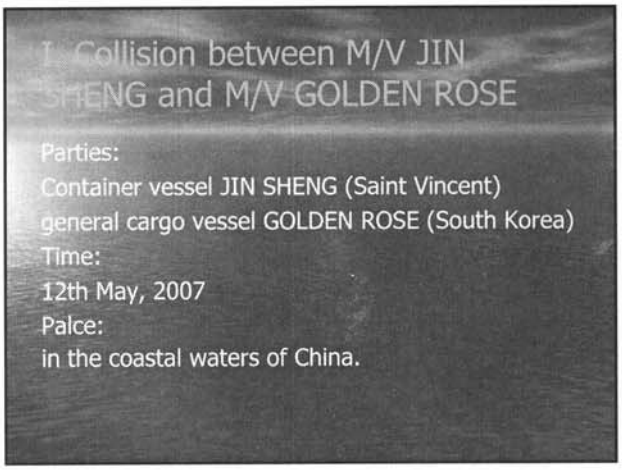
Safe Transport

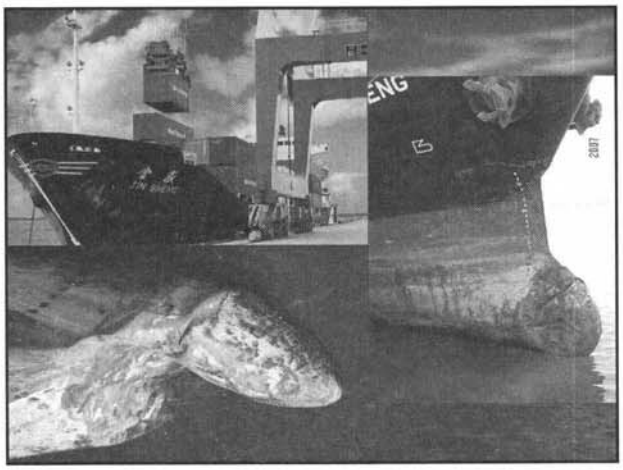
## (2) 中　国

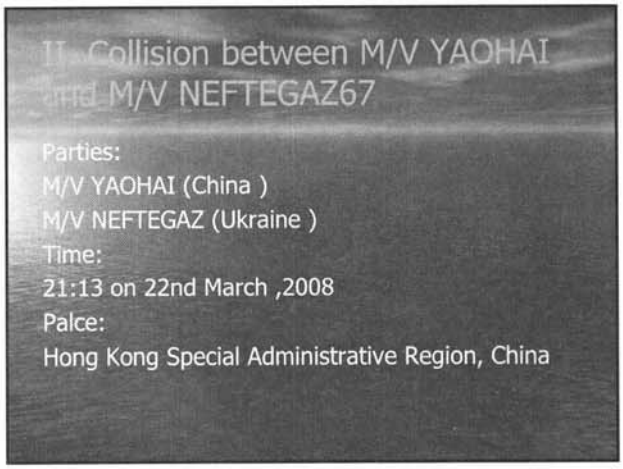

New Rules-New Opportunities
China MSA


Appreciation
to
JAMIA


Part 1 Cases of Maritime Acci nts


I Collision between M/V JIN
SHENG and M/V GOLDEN ROSE
Parties:
Container vessel JIN SHENG (Saint Vincent)
general cargo vessel GOLDEN ROSE (South Korea)
Time:
12th May, 2007
Palce:
in the coastal waters of China.

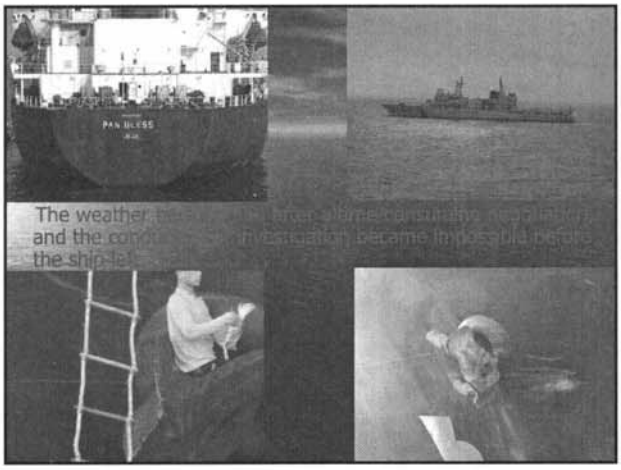



II Collision between M/V YAOHAI
and M/V NEFTEGAZ67
Parties:
M/V YAOHAI (China )
M/V NEFTEGAZ (Ukraine )
Time:
21:13 on 22nd March ,2008
Palce:
Hong Kong Special Administrative Region, China

## A successful joint investigation

## III Collision between M/V PANBLESS and fishing boat LUJIAOYU 0597

Parties:
M/V PANBLESS (South Korean)
fishing boat LUJIAOYU 0597 (China)
Time:
08:30 on 7th April ,2008
Place:
outside the mouth of the Yangtze river, China



The weather [illegible] and the co[illegible] the ship left [illegible] investigation became impossible before

## Part 2 Problems

### The rights of ship owners

no obligations to accept investigations from non-flag states.

## II The rights of crew

The right of crew to remain silence only can fail the investigation be conducted effectively.

## III. The power of the authorities

States should entitle their authorities of necessary investigation powers

## The independence of the investigation

As an independent and non-blame investigation whose basic principle is cause-finding philosophy, it should be separated from diplomatic intervention and other types of investigation.

## Part 3 Future prospect

- New development of the code;
- pay more attentions on the cooperation among us ;
- developing bilateral or multilateral agreements with the aim at facilitating the parties participation in investigations;
- make MAIFA be better by common effort.

We believe, on the existing basis the cooperation among us in the future will be deeper, more efficient and effective, and will make the Asian oceans safer and clearer!

# THANKS!

## (3) インド

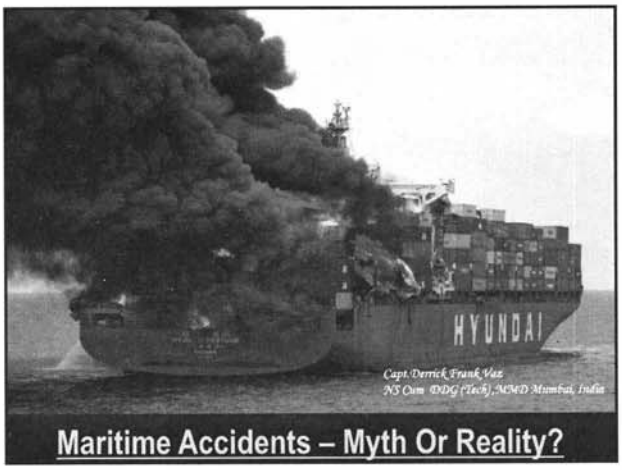
"The Experts Meeting on Promoting Co-operation of Marine Casualty Investigations in Asia"

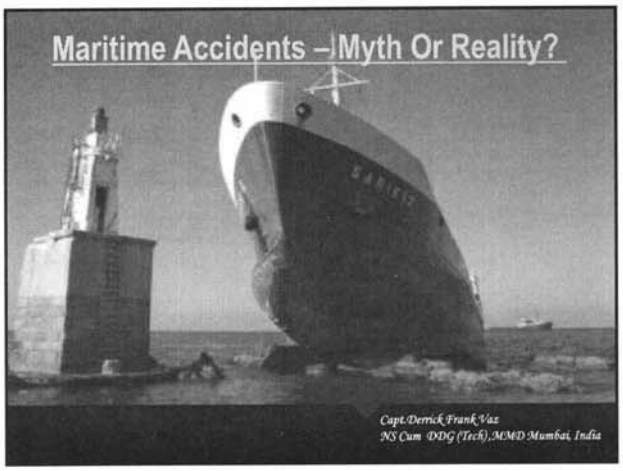
*Convened By*

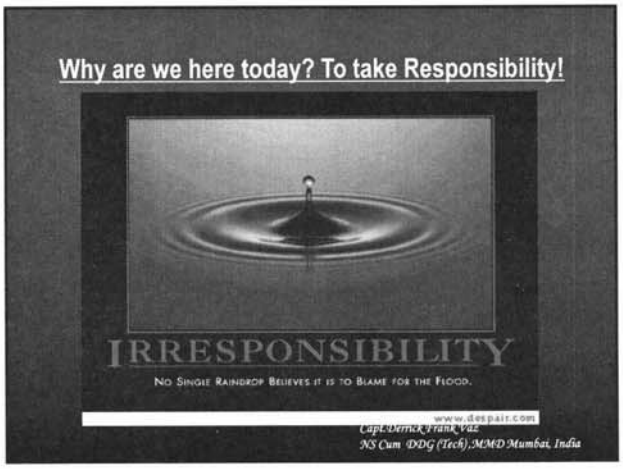
*Japan Marine Accident Inquiry Agency*

*Tokyo Japan*

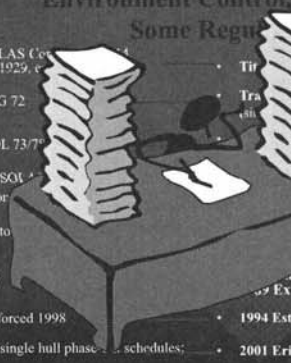
Presented by:
Capt.Derrick Frank Vaz
Nautical Surveyor Cum Deputy Director General (Tech.),
Mercantile Marine Department, Mumbai India


## Safety at Sea, Pollution Prevention, Environment Control, Security ... Some Regu



- Firs. SOLAS Co... adopted 1929, e...
- COLREG 72
- MARPOL 73/7...
- Amend. SOL... protection...
- Amend. to...
- OPA 90
- ISM; enforced 1998
- Revised single hull phase... schedules;
- Ti... lives lost
- Tra... ...e made mandatory; ...nglish Channel)
- ...n – major oil ...er
- ...incl. Lakonia,
- ...nterprise, lives
- ...uco Cad... ...Exxon Valdez
- 1994 Estonia, lives lost
- 2001 Erika & 2002 Prestige

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

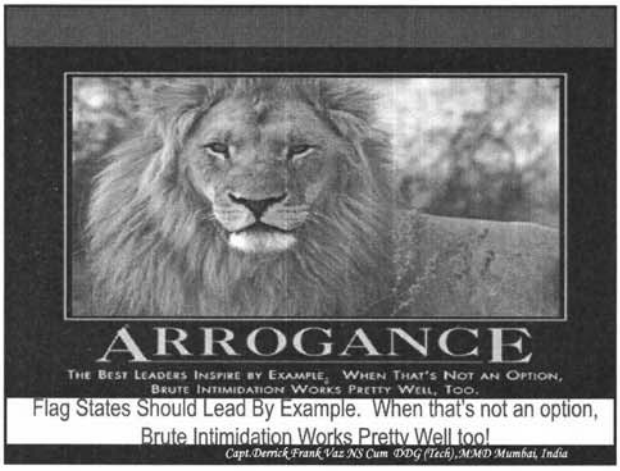
## Who is this?


**Burnt-out!**

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## Regret may come too late!

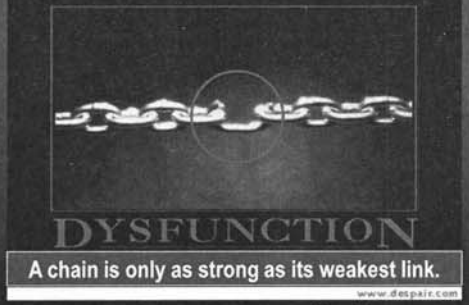

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*



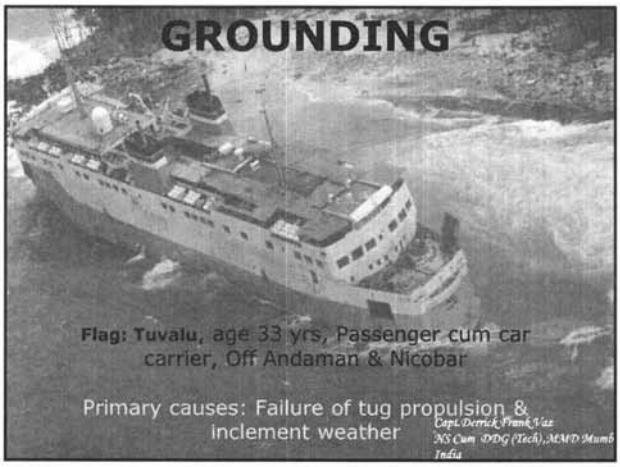

Flag States Should Lead By Example. When that's not an option, Brute Intimidation Works Pretty Well too!

*Capt.Derrick Frank Vaz NS Cum DDG (Tech),MMD Mumbai, India*

## Problem Areas – Who is the weakest link?




*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

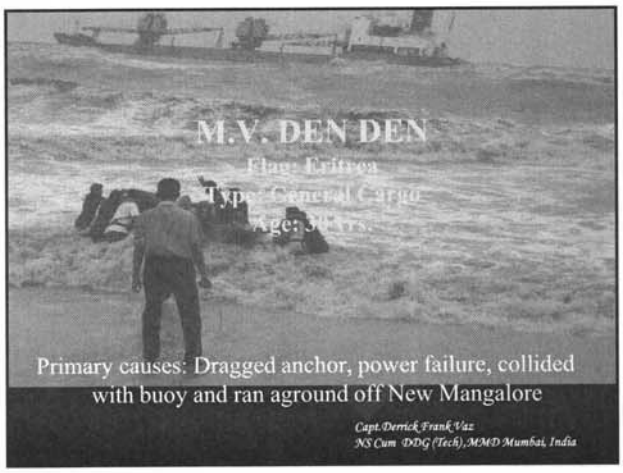


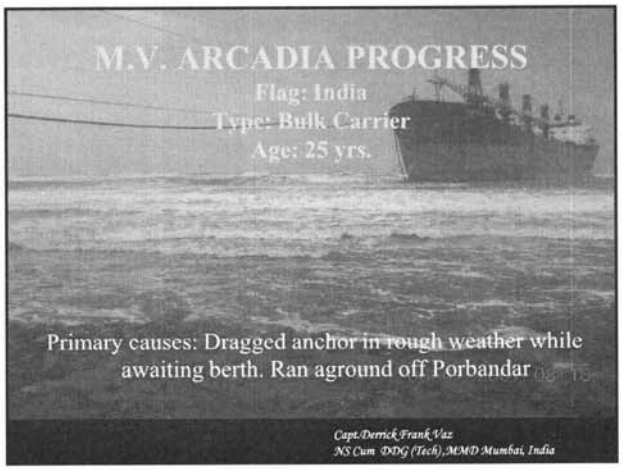

**Flag: Tuvalu**, age 33 yrs, Passenger cum car carrier, Off Andaman & Nicobar

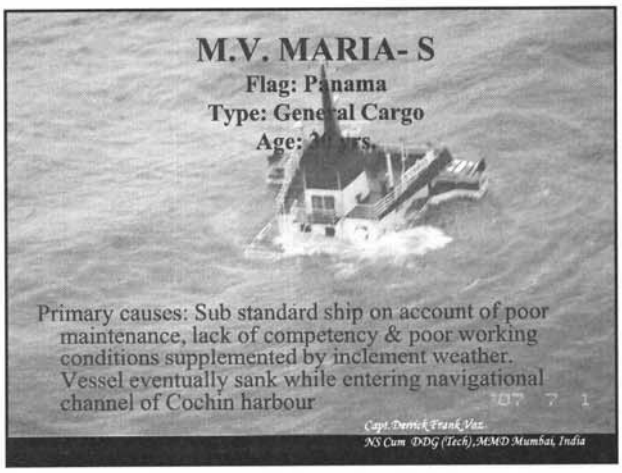
Primary causes: Failure of tug propulsion & inclement weather

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumb*
*India*

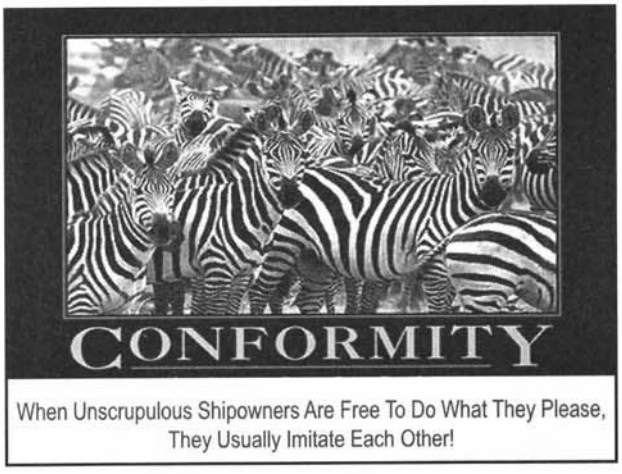

SINKING
Flag India, Container vessel, age 27 yrs
Primary cause: Technical failure, poor maintenance, inclement weather
Capt. Derrick Frank Vaz
NS Cum DDG (Tech), MMD Mumbai, India

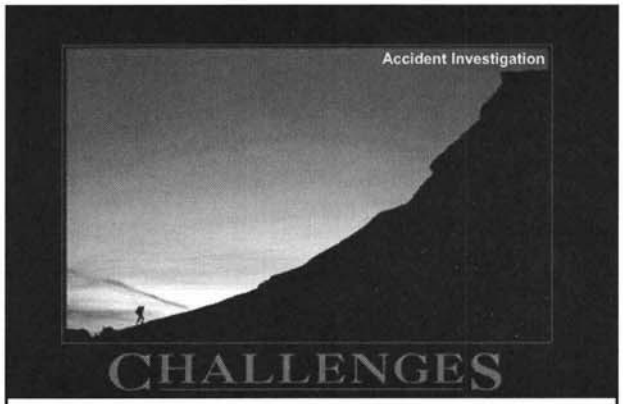

M.V. DEN DEN
Primary causes: Dragged anchor, power failure, collided with buoy and ran aground off New Mangalore
Capt. Derrick Frank Vaz
NS Cum DDG (Tech), MMD Mumbai, India


M.V. ARCADIA PROGRESS
Flag: India
Type: Bulk Carrier
Age: 25 yrs.
Primary causes: Dragged anchor in rough weather while awaiting berth. Ran aground off Porbandar
Capt. Derrick Frank Vaz
NS Cum DDG (Tech), MMD Mumbai, India

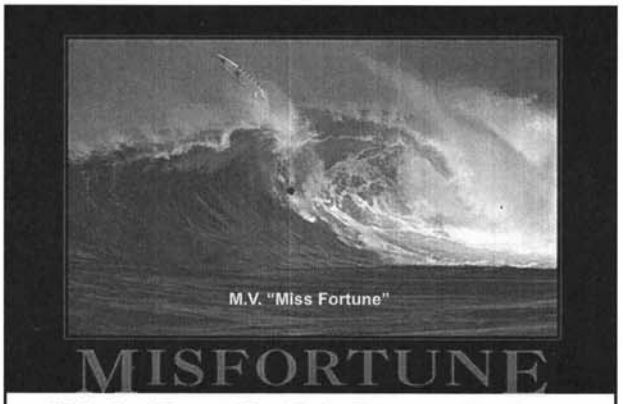

M.V. MARIA- S
Flag: Panama
Type: General Cargo
Primary causes: Sub standard ship on account of poor maintenance, lack of competency & poor working conditions supplemented by inclement weather. Vessel eventually sank while entering navigational channel of Cochin harbour
Capt. Derrick Frank Vaz.
NS Cum DDG (Tech), MMD Mumbai, India


GIANT STEP OCT'2006
Capt. Derrick Frank Vaz
NS Cum DDG (Tech), MMD Mumbai, India


CONFORMITY
When Unscrupulous Shipowners Are Free To Do What They Please, They Usually Imitate Each Other!




I Expected Times Like This – But I Never Thought They'd Be So Bad, So Long, and So Frequent!




While Good Fortune Often Eludes Shipowners & Seafarers, This Kind Never Misses!

## PREFACE

*The Ministry set up a committee on 4th July 2007 under the Director General of Shipping to recommend urgent measures within 15 days.*

*DGS associated*

- *Coast Guards, Navy, Maritime boards, Major port trusts, technical Advisers of DG Shipping*

*The Committee submitted its report to the Ministry on 3rd August 2007.*

*Consequently, only obvious measures are included.*

Source: Experts committee report

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## METHODOLOGY

**Analysis:**

- 3 years casualty data
- Existing felt shortcomings

**Recommendations:**

- Preventive-14
- Emergency response-5
- Relief & rehabilitsation-2
- Short term-8

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## ANALYSIS OF DATA

**Ship casualties are increasing...**

Incidents involving Indian ships, coastal waters, seafarers:

| 2005 | 2006 | 2007(till July) |
|---|---|---|
| 99 | 111 | 126 |

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## ANALYSIS OF DATA... Contd.

**Serious shipping casualties:**

| Marine Accidents | 2005 | 2006 | 2007 |
|---|---|---|---|
| Collisions | 12 | 5 | 11 |
| Groundings | 8 | 7 | 8 |
| Sinkings | 5 | 1 | 2 |
| TOTAL | 25 | 13 | 21 |

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## ANALYSIS OF DATA... Contd.

During the monsoon, of 29 vessels lost:

- 65% (18/29) were 25 years
- In 50% (15/29), the initiating cause was machinery breakdown
- Of these, 93% (14/15) were more than 25 years old.

*Old vessels are being flagged because of high freight rates*

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## ANALYSIS OF SHORTCOMINGS

- *Indian Coast Guards is the first agency to be informed of ships in distress.*
- *DGS obtains the information from Coast Guards on MRCC or others.*
- *The information received is generally incomplete.*
- *The responsibility of coordination falls on DGS though no authority is vested.*
- *Time is often lost because DGS authority is questioned and responses are delayed.*
- *Coast Guard's role in salvage is minimal.*
- *Resources for SAR and salvage are inadequate.*
- *Legislation is not supportive for wreck removal*

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## LOSSES ARE SIGNIFICANT

Financial:

- In the event of a major oil pollution disaster, losses go up to billions
- In one incident, BHN platform (2005), the country wrote off USD 40 million
- Erika, off the shore of France (1999) was estimated over USD 286 million.

Source: IOPC Fund, P & I group & ONGC reports

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## ANALYSIS...

**TRAFFIC IS GROWING**

- **Over 48,000 ships over 1000 GRT engaged in international trade.**
- **An estimated 12000 vessels call at Indian ports daily.**
- **An estimated 1000 foreign flag ships present in Indian waters on any given day.**
- **In addition, 882 MS registered vessels under the Indian flag and an estimated 300,000 fishing and sailing vessels navigate in Indian waters.**

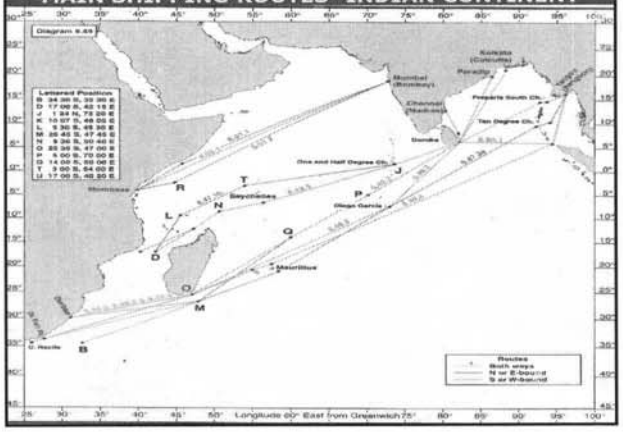
**Economic growth will see Indian coastal waters getting further crowded.**

**India's own growth in offshore activity & development in ports, ship building & energy needs will make the coastline more accident prone.**

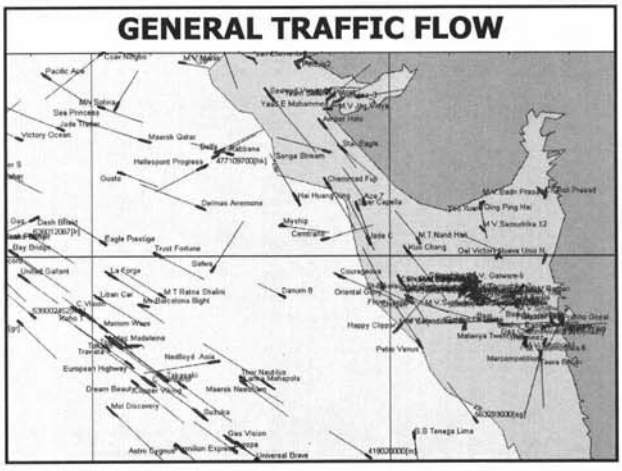
Source: National & International journals

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## MAIN SHIPPING ROUTES- INDIAN CONTINENT




## GENERAL TRAFFIC FLOW



## RECOMMENDATIONS

### IMMEDIATE PREVENTIVE MEASURES

- Restriction on old vessels in TW and EEZ.
- Sensitive offshore area protection.
- Vessel traffic management.
- Safeguarding port navigational waters.
- Stringent inspection of older vessels.
- Places of refuge.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## IMMEDIATE PREVENTIVE MEASURES...

**Restriction of old vessels in TW & EEZ:**

- Advisory to ship owners of vessels 25 yrs. & above in age to discourage operation in south west monsoon through IMO.
- No chartering permission should be given to vessels more than 25 yrs. of age.
- Only double hull or CAS certified tankers to be permitted during the monsoons.
- An advisory to ship agents to discourage operation of vessels of above 25 yrs. age during the monsoons.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## PREVENTIVE MEASURES....

**Sensitive offshore area protection:**

- OSVs & other vessels in offshore areas more than 20 yrs. of age to undergo mandatory technical inspection by IRS.

**Stringent inspection of older vessels:**

- Targeting based on age, size, flag, class & ownership for foreign ships (PSC).
- FSI inspection of Indian ships increased targeting based on cargo, safety profile of owner, age etc.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

**Sea lanes and traffic management:**

- VTIMS to be introduced along the coast
- Sea lanes to be set up in the vicinity of oilfield development area
- Coast Guard to augment surveillance and patrolling of sea lanes during fair and foul seasons

**Places of refuge:**

- Being a sensitive issue politically, the Ministry of Shipping should choose on POR each on the East & west coast for timely assistance (port to follow IMO guidelines)

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

**Safeguarding port navigational waters:**

- All ports to provide services of vessel monitoring traffic with effective communication and AIS system for safety of navigation.
- All ports to issue weather warnings in time through VHF radio for the safety of small fishing craft, tugs, barges etc.
- All ports to display storm signals to warn fishing and shipping traffic.
- All ports & Customs to review entry & exit clearances based on technical fitness certificates. IPA to draw up checklist of clearances of Customs clearance in consultation with DG Shipping.
- MS Act and Indian Ports Act to give more power to the Administration and ports for the removal of wrecks posing a hazard to navigation.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## EMERGENCY RESPONSE MEASURES

Authorities Responsible for Emergency response:

- At national level, DGS to assume responsibility.
- At local level, within ports and for at least 2 nautical miles around, Port chairman responsible, however DGS to be empowered to take over if situation demands.
- For national disasters, DGS to coordinate with MHA..

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

**Essential Equipment:**

- Salvage companies of international repute to be encouraged to sign MOU with Govt. for salvage vessels.
- To set up 2 ETVs of 120 BP with salvage insurance equipment, hot tab etc. on east/ west coast of India.
- All ports to augment their resources with respect to oil pollution response/ containment equipments/ manpower.

**SAR response:**

- Coast Guard/ Navy to have twin engine helicopters- heavy duty with longer endurance at standby during rough weather).

*Capt.Derrick Frank Vaz NS Cum DDG (Tech),MMD Mumbai, India*

## REHABILITATION AND RELIEF MEASURES

**Emergency Funds:**

- A separate fund and PL account to be established under the control of shipping to meet expenses for bankrupt owners, underprivileged fishermen, removal of wrecks, mortal remains of seafarers, hospitalizations etc.

**Facilitation of Settlement of claims:**

- To provide expertise in line with national & international laws for expeditious settlement of claims during salvage operations.

*Capt.Derrick Frank Vaz NS Cum DDG (Tech),MMD Mumbai, India*

## SHORT TERM MEASURES

- **The Important ones are:**
- Information sharing on casualties with coastal agencies.
- Augmentation of coastal surveillance by coast guard/ Navy, ONGC, marine police, ports etc. including AIS.
- Long Range identification tracking within 1000 miles from the coast.
- Establishment of Casualty Investigation Bureau for timely investigation..
- Facilities of salvage and oil response experts for timely assistance to distressed and disabled vessels.
- Legislative Changes with respect to wreck removal & port entry rules..

*Capt.Derrick Frank Vaz NS Cum DDG (Tech),MMD Mumbai, India*

## ASSESSMENT OF REPORT

- **Controversial: Vessels more than 25 years of age.**
- **Costs- ETV, Emergency funds.**
- **Role of Coast Guard.**
- **Manpower of DGS.**

*Capt.Derrick Frank Vaz NS Cum DDG (Tech),MMD Mumbai, India*

## DATA SUPPORT FOR DECISION TO RESTRICT OLD VESSELS

| All year ship casualties | 2005 | 2006 | 2007 | TOTAL |
|---|---|---|---|---|
| All ships | 37 | 30 | 57 | 124 |
| During MW | 16 | 18 | 32 | 66 |
| Serious/loss | 25 | 13 | 21 | 59 |
| More than 25 yrs | 10 | 7 | 16 | 33 |
| Loss/ serious during MW | 8 | 5 | 16 | 29 |
| More than 25 yrs | 6 | 4 | 8 | 18 |

**CONCLUSION: the combination of age, poor maintenance and rough weather is FATAL**

*Capt.Derrick Frank Vaz NS Cum DDG (Tech),MMD Mumbai, India*

## VESSELS MORE THAN 25 YEARS

*Begin cautiously by tightening up -*

- Chartered vessels in offshore areas- all weather.
- All chartered vessels (except gas carriers) during monsoons.
- Bulk- We should, but look at the freight rates!

*Port entry rules are urgently required.*

*Capt.Derrick Frank Vaz NS Cum DDG (Tech),MMD Mumbai, India*

## FINANCIAL IMPLICATIONS

**ETVs (EMERGENCY TOWING VESSELS):**

- Need to involve petroleum sector to minimize costs.
- Either they take anchor handling supply vessels with salvage capabilities under MOU with INSA and DGS

OR

We mandate salvage capability on their standby OSVs (OFFSHORE SUPPLY VESSELS) with anchor handling & towing capabilities (AHTS)

- Govt. to bear only charter hire recurring costs for days tugs are taken for salvage work. Recurring NP expenditure estimated Rs. 3 crores Contd....

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## FINANCIAL IMPLICATIONS...Contd

**Emergency fund for immediate relief:**

Rs. 2 crores per annum with powers to DGS as to relief coordinators for national emergencies.

A budget line and Rs. 5 crores per annum non planned (NP) expenditure is required.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## AGE PROFILE- WORLD FLEET- 01.01.2005

*% of GT*

| Types of vessel | 0-4 yrs | 5-9 yrs | 10-14 yrs | 15-19 yrs | > 20yrs | Avg. age |
|---|---|---|---|---|---|---|
| All ships | 23.0% | 21.9% | 16.5% | 11.3% | 27.3% | 12.3 |
| Tankers | 29.0% | 22.8% | 20.9% | 11.7% | 15.7% | 10.3 |
| Bulk carriers | 20.0% | 22.0% | 14.6% | 12.4% | 30.8% | 13.0 |
| General cargo | 7.3% | 15.0% | 10.7% | 10.9% | 56.1% | 17.5 |
| Container ships | 31.9% | 29.3% | 16.3% | 16.3% | 13.7% | 9.4 |
| All Others | 16.0% | 15.7% | 11.9% | 11.9% | 48.4% | 15.6 |

Classification societies have explicit survey requirements for vessels of over 20 yrs. Of age. No data is available for vessels over 20 yrs. Of age.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## AGE PROFILE- INDIAN FLEET AS ON 31/12/2007

*% of GT*

| Types of vessel | 0-4 yrs | 5-9 yrs | 10-14 yrs | 15-19 yrs | > 20yrs | Avg. age |
|---|---|---|---|---|---|---|
| All ships | 18.27% | 7.71% | 15.06% | 14.54 % | 44.42% | 15.62 |
| Crude tankers | 31.86% | 5.39% | 24.33% | 15.15 % | 23.28% | 11.98 |
| Product tankers | 19.47% | 11.45% | 8.31% | 8.92% | 51.86% | 15.89 |
| Dry bulk carriers | 7.97% | 7.31% | 9.30% | 14.77 % | 60.65% | 18.55 |
| Container ships | 0.00% | 0.00% | 56.20% | 0.00% | 43.80% | 17.04 |
| All Others | 4.34% | 10.35% | 8.54% | 22.75 % | 54.01% | 18.31 |

Classification societies have explicit survey requirements for vessels of over 20 yrs. Of age. No data is available for vessels over 20 yrs. Of age.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## ADVANCE ACTION TAKEN

- Draft circular on restrictions on chartering of old vessels.
- Emphasis on PSC and FSI.
- Safety fairway for offshore areas- Last stages.
- Separate casualty investigation bureau- Draft not issued.
- Port entry rules.
- Wreck removal legislation amendment.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## BACK UP SLIDES

| • YEAR | 2005 | 2006 | 2007 | TOTAL |
|---|---|---|---|---|
| • TYPE | | | | |
| • Collision | 12 | 5 | 26 | **43** |
| • Grounding | 8 | 7 | 15 | **30** |
| • Fire | 0 | 0 | 7 | 7 |
| • Sinking | 0 | 0 | 27 | 27 |
| • Explosion | 5 | 1 | 1 | 7 |
| • **TOTAL** | **25** | **13** | **76** | **114** |

**Findings : Contributing factors are poor maintenance, advancing age, hostile weather etc.**

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## OCCUPATIONAL ACCIDENTS

| YEAR | 2005 | 2006 | 2007 | TOTAL |
|---|---|---|---|---|
| Accidental death | 45 | 26 | 1 | **72** |
| Suicide | 1 | 0 | 3 | **4** |
| Natural death | 4 | 19 | 45 | **68** |
| Injured | 5 | 12 | 11 | **28** |
| Missing | 25 | 12 | 13 | **50** |
| **TOTAL** | **80** | **69** | **73** | **222** |

Findings : Contributing factors – substandard crew, fatigue, poor living conditions and poor working conditions etc.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## CASUALTY STATISTICS WORLD- WIDE 2005 TO 2007

| YEAR TYPE | 2005 | 2006 | 2007 | TOTAL |
|---|---|---|---|---|
| Collision | 12(4)* | 5(9)* | 11 | 28(24)* |
| Grounding | 8(5)* | 7(15)* | 8 | 23(28)* |
| Fire/Expl | | | | |
| Sinking | 5(2)* | 1(3)* | 2(7)* | 8(12)* |
| **TOTAL** | **25(11)** | **13(27)** | **21(26)** | **59(64)** |

**Findings : Contributing factors are poor maintenance, advancing age, hostile weather etc.**

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## CASUALTY STATISTICS WORLD – WIDE FROM 1st July, 07 TILL 31st DEC. 07

| | |
|---|---|
| Collision / contact | 15 |
| Grounding | 7 |
| Fire / explosion / Sinking | 0 |
| Total | 22 |

PS – Out of these cases 2 occurred in Indian waters and remaining in foreign waters.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## SHIP CASUALTIES ANALYSIS

**WORLD - WIDE FROM 2005 TO 2007 (ALL YEAR ROUND)**

| | 2005 | 2006 | 2007 | TOTAL |
|---|---|---|---|---|
| Total Ships affected | 64 | 146 | 260 | 470 |
| Age over 25 yrs | 9 | 31 | 61 | 101 |
| Age less than 25 yrs | 40 | 89 | 138 | 267 |
| **Total** | **49** | **120** | **199** | **368** |

**PS – Cases of ships age not known, small crafts, port facilities and misc. not taken into account.**

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## SHIP CASUALTIES ANALYSIS

**FOR 2005 TO 2007 DURING MONSOON IN INDIAN WATERS (1st JUNE to 31st AUG.,2007)**

| | 2005 | 2006 | 2007 | TOTAL |
|---|---|---|---|---|
| Total Ships affected | 9 | 26 | 26 | 61 |
| Age over 25 yrs | 4 | 11 | 13 | 28 |
| Age less than 25 yrs | 2 | 12 | 9 | 23 |
| **Total** | **6** | **23** | **22** | **51** |

**PS- Cases of ships age not known not taken into account.**

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## SHIP CASUALTIES ANALYSIS

**FOR 2007 DURING MONSOON IN INDIAN WATERS (FROM 25TH JULY to 31st AUG.,2007)**

- Data between 25th July to 31st Aug., 2007
- Total Ships affected 12
- Age over 25 yrs 5
- Age less than 25 yrs 7
- **PS- Cases of ships age not known not taken into account.**

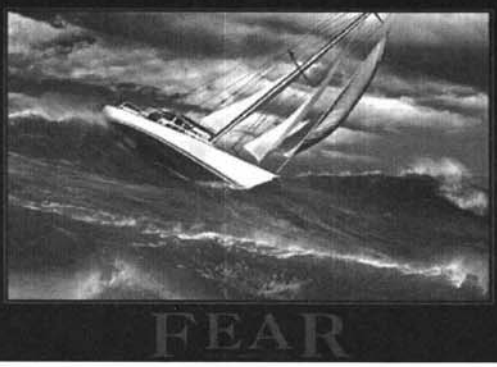
*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## OCCUPATIONAL ACCIDENTS WORLD – WIDE (2005 TO 31/12/2007)

| YEAR | 2005 | 2006 | 2007 | TOTAL |
|---|---|---|---|---|
| Deaths* | 75 | 57 | 121 | **253** |
| Injured | 5 | 12 | 15 | **32** |
| **TOTAL** | **80** | **69** | **136** | **285** |

- *** Include accidental, natural, missing & suicide.**
- Findings : Contributing factors – substandard crew, fatigue, poor living conditions and poor working conditions etc.

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*




Until One Has The Courage To Lose Sight Of The Shore,
He Will Not Know The Terrors Of Being Lost Forever At Sea!

## *Mandatory Code For Investigation Of Marine Casualties And Incidents Agreed For Adoption In 2008.*

*Sub committee of Flag States at its 15th Session agreed on the subject Code*

*The New Code is to replace the existing Code A 849(20) as amended by A 884(21).*

*This code will be submitted for adoption by MSC at its 84 th Session in mid 2008.*

*The Code would require a Flag State to conduct a Marine Safety Investigation into every "Very Serious Marine Casualty"…involving the Total Constructive Loss of a Ship, death or severe damage to the Environment.*

*Capt.Derrick Frank Vaz ,NS Cum DDG (Tech),MMD Mumbai, India*

## *Mandatory Code For Investigation Of Marine Casualties And Incidents Agreed For Adoption In 2008.*

*The Code would also recommend a Flag State to conduct a Marine Safety Investigation into Marine Casualties (other than Very Serious) and incidents, if it is considered that the investigation will provide information that can avert recurrence*

*The New Code would include a new Regulation 6 in Solas Chpt.XI-I.Part I and II will be mandatory .Part III will be recommendatory.*

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*


When The Winds Of Change
Blow Hard Enough,
The Most Trivial Things
Can Turn Into
Deadly Projectiles!

*Capt.Derrick Frank Vaz*
*NS Cum DDG (Tech),MMD Mumbai, India*

## *Thanks for your Attention !*

*Capt. Derrick Frank Vaz*
*Nautical Surveyor cum Deputy Director General (Tech),*
*MMD Mumbai, INDIA*

# NATIONAL TRANSPORTATION SAFETY COMMITTEE (NTSC)

MINISTRY OF TRANSPORTATION
REPUBLIC OF INDONESIA

*PRESENTED IN:*

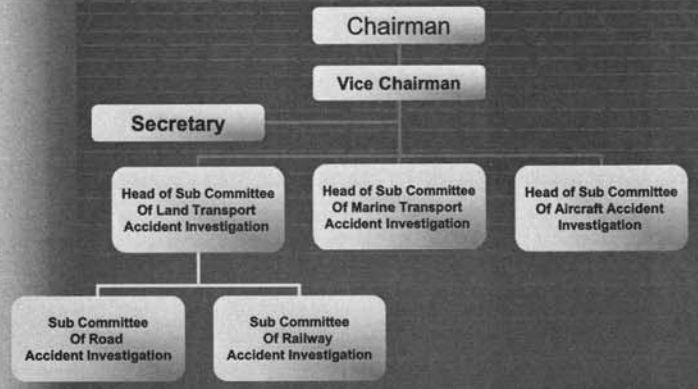
Expert Meeting on Promoting Co-operation of the Marine Casualty Investigation in Asia,
JUNE 25-26, 2008
TOKYO, JAPAN

## WHO WE ARE

- The Komisi Penelitian Penyebab Kecelakaan Pesawat Udara (KPPKPU) – The Investigation Committee On Civil Aviation Accidents – was established in 1994 to conduct independent investigations of all civil aviation accidents in Indonesia;
- In 1999 it became Komite Nasional Keselamatan Transportasi (KNKT) or NTSC. Its objectives is to conduct investigation on all major accidents in all modes of transportation;
- NTSC is a division under Ministry of Transportation and is reporting directly to the Minister.



## NTSC STRUCTURE






## NTSC LEGAL SOURCE

- UNCLOS Article 94. Duties of the Flag State;
- IMO Resolution A.849(20). Code for the Investigation of Marine Casualties;
- SOLAS Chapter 1, Regulation 21;
- PRESIDENTIAL DECREE No. 105 / 1999 (NTSC responsible to The MINISTER OF TRANSPORTATION).
- REGULATION NO.17/2008, ARTICLE 256

# OUR VISION

To Become A Single Self Regulating Organization That Is Capable In Conducting Investigations And Surveys And Improving Safety Of Life At Sea In Indonesia.

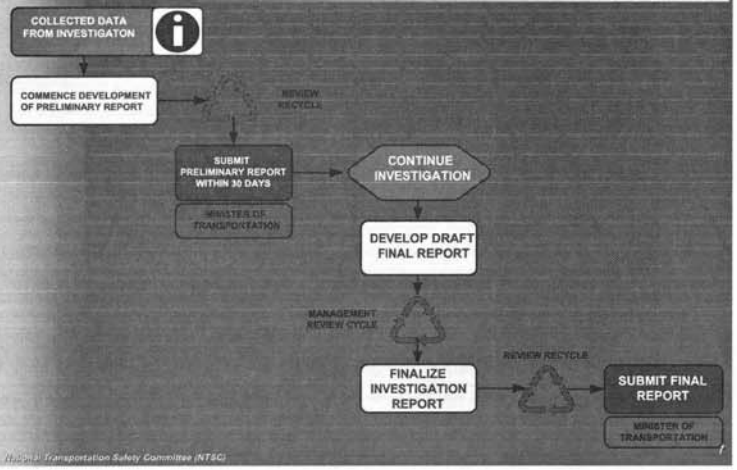


# OUR MISSION

- To Determine Probable Factors Or Causes of Transportation Accidents Based On Identification Of The Substandard of The Safety System In Order To Prevent Similar Accidents Happened In The Future;
- To Recommend Safety Regulations To Be Administered Consistently By The Respective Party.

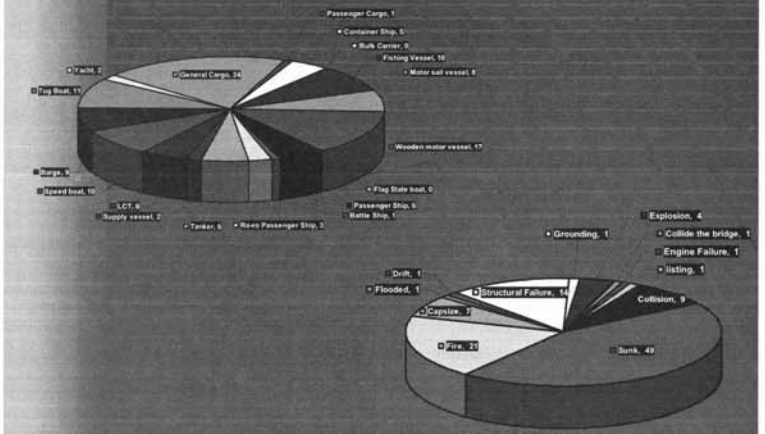


# REPORTING PROCEDURE






# INDONESIA MARINE ACCIDENT DATA 2007




UPDATED : DEC 2007

## INTERNATIONAL JOINT CO-ORPORATION

- **TRAINING & EDUCATION WITH AUSTRALIAN TRANSPORT SAFETY BUREAU (ATSB)**
  - INVESTIGATION TECHNICAL ASSISTANCE
  - HUMAN FACTOR TRAINING FOR INVESTIGATOR
  - HUMAN FACTOR TRAINING FOR ENGINEER
  - SENT NTSC'S INVESTIGATOR TO FOLLOW IN ATSB INVESTIGATOR DIPLOME PROGRAM
- **ACCIDENT DATA EXCHANGE WITH JAPANESE COASTGURAD**



## INVESTIGATED CASES

## SENOPATI NUSANTARA (DECEMBER 2006)

- Year Built :
  - *1985*
- Dockyard
  - *Japan*
- Type of Accident
  - *Capsize*
- Location
  - *Mandalika water, Java Sea*
- Findings
  - *Construction Modification*
  - *Bad Weather*
  - *Last Docking On October 2006*
  - *Close Space Cardeck*
- *Most probable cause*
  - *Bad Weather & Manning Regulation*
- Contributing Factors
  - *Regulation for ferry ropax*
  - *Inaccuracy cargo data*
  - *Free Surface Effect*
  - *Leackage On Water Tight Ramp*
  - *Cargo Securing Material*
  - *Ship's Handling in Bad Weather*
  - *Implementation of ISM Code*




## LEVINA I (FEBRUARY 2007)

- Years Built :
  - *1980*
- Dockyard :
  - *Fokuoka Shipbuilding Co.Ltd, Japan*
- Type of Accident :
  - *Fire*
- Location :
  - *+ 40 nmil Northern Tanjung Priok Port, Jakarta*
- Findings :
  - *Inaccuracy of Cargo Data*
  - *Passenger list is not same with Actual numbers of passenger onboard*
- Most probable cause :
  - *Fire on non-declared Dangerous goods on vehicle on deck*
- Contributing Factors :
  - *Cargo booking supervision*
  - *Fire detector and fire fighting system*
  - *Inadequate distance between vehicles onboard*
  - *Lack of skill in crowd & crisis management*

## MT. MAULANA (APRIL 2007)

- Years Built :
  - *1992*
- Dockyard :
  - *Inggom Dockyard, Jakarta, Indonesia*
- Type of Accident :
  - *Explosion*
- Location :
  - *Telepung Blight, Siak River, Riau*
- Findings :
  - *Overload on electrical system*
  - *Tank Cleaning While steaming*
  - *Leakage caused by corrosion on gas discharge piping system*
- Contributing Factors :
  - *Weather/Temperature*
- Recommendation:
  - *Improvement on piping maintenance system*



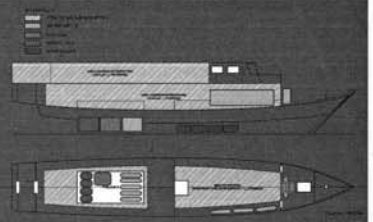
## MT. JOSPHINE (MAY 2007)

- Years Built :
  - *1985*
- Dockyard :
  - *Mukaishima Dockyard Co.Ltd Japan*
- Type of Accident :
  - *Capsize*
- Location :
  - *Musi River, South Sumatera*
- Findings :
  - *Crack on the bottom hull cause flood in ballast tank*
  - *Improper handling of flood*
- Contributing Factors :
  - *Management decision;*
  - *Pilot recommendations not obligated;*
  - *Ship sailing route (form salt water to fresh water);*
  - *Crew's experience on local water*
- Recommendation:
  - *Enhancing on ISM Code Implementation*



## MV. ACITA 03 (OCT 2007)

- Years Built :
  - *2003*
- Dockyard :
  - *Nggele, Taliabu,*
- Type of Accident :
  - *Capsize*
- Location :
  - *Near Lakeba Beach, Bau-bau, South East Celebes*
- Findings :
  - *Passengers distributed on one side which cause*
  - *No Controls of Passenger on board by local authority;*
- Contributing Factors :
  - *Lack of crew control on passengers;*
  - *Lack of Passenger's Safety Knowledge;*
  - *Transportation availability during peak season;*
  - *Ship in General and Accommodation's design;*
- Recommendation:
  - *Improvement on local built wooden passenger cargo vessels*
  - *Enhancement on safety control in local authority*
  - *Crews training for emergency conditions,*





## MT. KHARISMA SELATAN (DEC 2007)

- Years Built :
  - *1988*
- Dockyard :
  - *Murakami Hide Shipyard, Japan*
- Type of Accident :
  - *Capsize*
- Location :
  - *Mirah Pier, Surabaya*
- Findings :
  - *Ship loaded with no load line certificate*
- Contributing Factors :
  - *Lack of Crew's Understanding on ship operation procedure*
  - *No Load line installed*
- Recommendation:
  - *Enhancing supervision on ISM-Code Implementation;*
  - *Enhancing on ship's boarding control;*
  - *Enhancing ship maintenance Plan;*
  - *Enhancing Crew's Training on ship's familiarity;*

## ISSUED SAFETY RECOMMENDATIONS

- Revise or amend on Ferry Ro-Ro Safety Regulations;
- Improvement on the Application Ship Safety System;
- Enforced or Urge the Company to Develop Planned Maintenance System;
- Supervision and Enforcement on the Implementation of All Laws for Carriage and Handling of Dangerous Goods;
- Close Audit for Crew's Understanding on Ship Management System;
- Improvement on Manning Regulation and Crew's Training on safety aspect (e.g.*Fire Drill, Abandon Ship, Crowd Management*) and In Competency.



## PRESENT COMMITTEE CONDITIONS

- Vast Coverage Area compare with the number of investigators and while Committee concentrated in Jakarta;
- Lack of Independency in the Aspect of Hierarchy As Well As Budget;
- Cheap Fare For Passenger (Government Controlled) Due To Low People's Income, Make It Difficult To Fulfill All Safety Requirement;
- Global problem of fuel supply



## FUTURE CONDITION

- Independent Agency, Under and be responsible directly to the PRESIDENT of Republic Indonesia;
- Enactment of Transportation Safety Investigation ACT;
- Enactment of Procedure for the Acceptance of NTSC Recommendations and To monitoring Them;
- To Have Adequate Number Of Investigators;

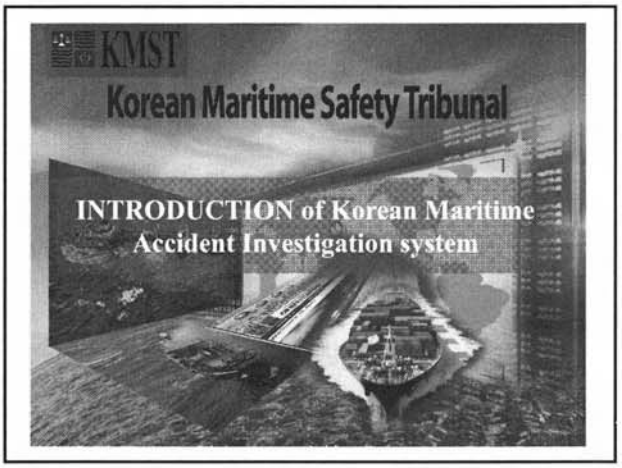


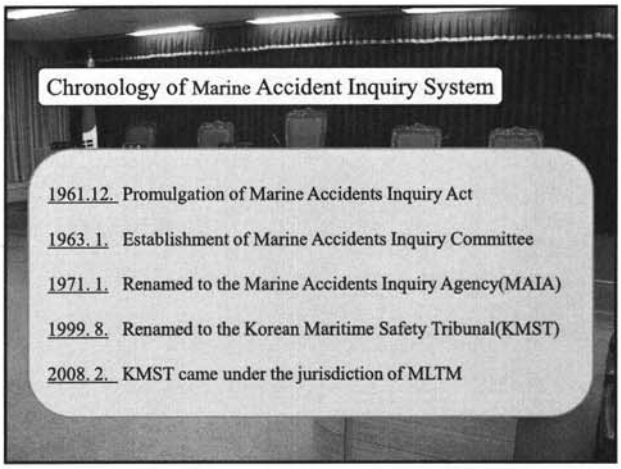
## TERIMA KASIH
## *THANK YOU*

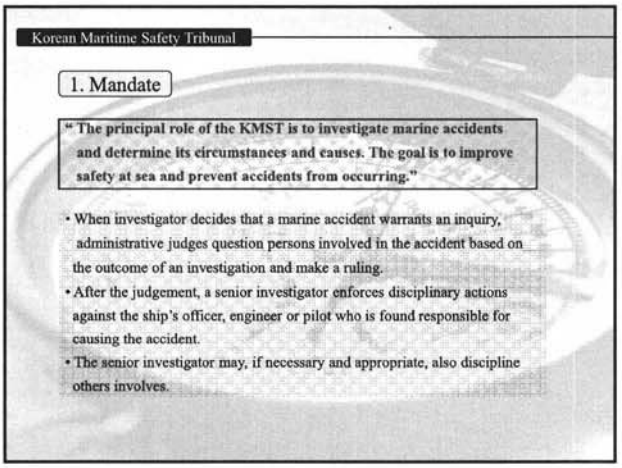
NATIONAL TRANSPORTATION SAFETY COMMITTEE
MINISTRY OF TRANSPORTATION

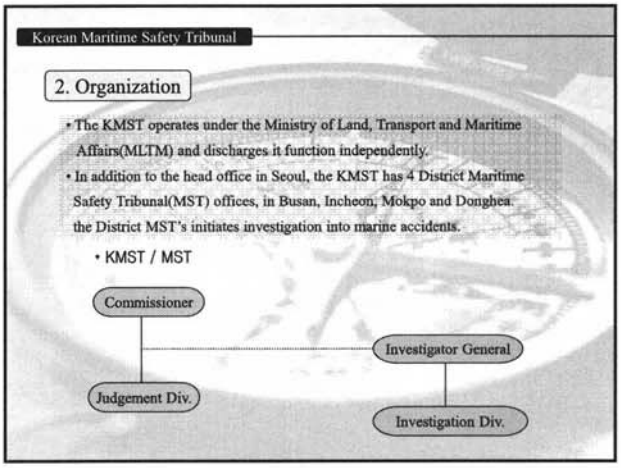
KARYA BLD. 7TH FL. JL. MERDEKA BARAT NO. 8,
JAKARTA PUSAT, INDONESIA, 10110
TELP. : 62 21 3517606, 3811308 EXT: 1497, FAX. : 62 21 3517606
WEB : WWW.DEPHUB.GO.ID/KNKT
EMAIL : KNKT@DEPHUB.GO.ID

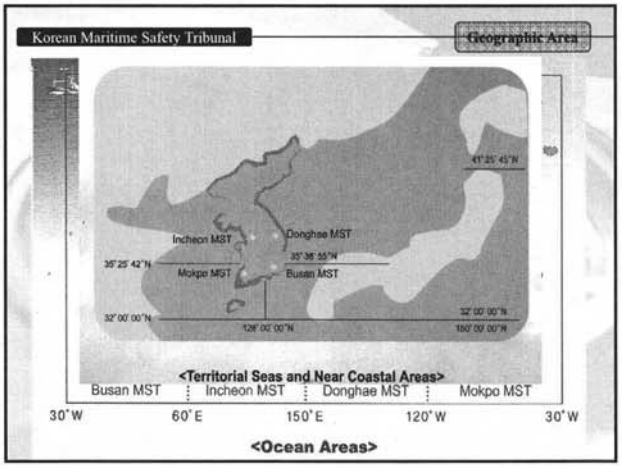
## (5) 韓　国

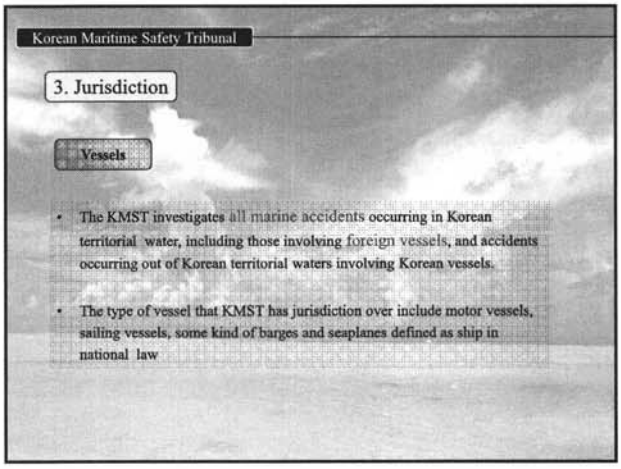

KMST
Korean Maritime Safety Tribunal
INTRODUCTION of Korean Maritime Accident Investigation system


Chronology of Marine Accident Inquiry System
1961.12. Promulgation of Marine Accidents Inquiry Act
1963. 1. Establishment of Marine Accidents Inquiry Committee
1971. 1. Renamed to the Marine Accidents Inquiry Agency(MAIA)
1999. 8. Renamed to the Korean Maritime Safety Tribunal(KMST)
2008. 2. KMST came under the jurisdiction of MLTM


Korean Maritime Safety Tribunal
1. Mandate
" The principal role of the KMST is to investigate marine accidents and determine its circumstances and causes. The goal is to improve safety at sea and prevent accidents from occurring."
• When investigator decides that a marine accident warrants an inquiry, administrative judges question persons involved in the accident based on the outcome of an investigation and make a ruling.
• After the judgement, a senior investigator enforces disciplinary actions against the ship's officer, engineer or pilot who is found responsible for causing the accident.
• The senior investigator may, if necessary and appropriate, also discipline others involves.


Korean Maritime Safety Tribunal
2. Organization
• The KMST operates under the Ministry of Land, Transport and Maritime Affairs(MLTM) and discharges it function independently.
• In addition to the head office in Seoul, the KMST has 4 District Maritime Safety Tribunal(MST) offices, in Busan, Incheon, Mokpo and Donghea the District MST's initiates investigation into marine accidents.
• KMST / MST
Commissioner
Investigator General
Judgement Div.
Investigation Div.


Korean Maritime Safety Tribunal
Geographic Area
Incheon MST
Donghae MST
Mokpo MST
Busan MST
<Territorial Seas and Near Coastal Areas>
Busan MST
Incheon MST
Donghae MST
Mokpo MST
30°W
60°E
150°E
120°W
30°W
<Ocean Areas>


Korean Maritime Safety Tribunal
3. Jurisdiction
Vessels
• The KMST investigates all marine accidents occurring in Korean territorial water, including those involving foreign vessels, and accidents occurring out of Korean territorial waters involving Korean vessels.
• The type of vessel that KMST has jurisdiction over include motor vessels, sailing vessels, some kind of barges and seaplanes defined as ship in national law

Korean Maritime Safety Tribunal

## 3. Jurisdiction

**Marine accident**

- An injury or disappearance of person relating to operation of ship or ship's structure or outfits
- A damage of Ship or shore facility relating to ship's operation
- A ship's collapse, losing or missing
- Ship's collision, grounding, capsizing or immobility of ship
- Oil pollution relating to ship's operation

Korean Maritime Safety Tribunal

## 4. Investigation and Inquiry Procedure

**Investigation**

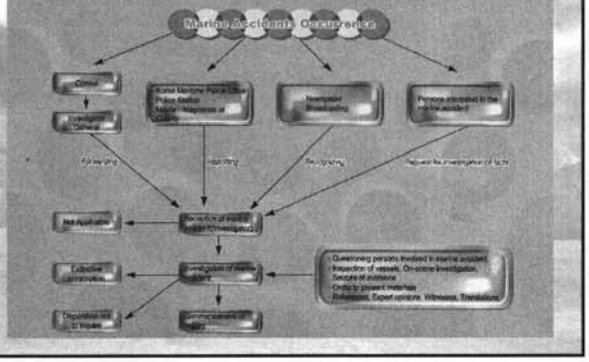
When other authorities such as the marine police inform the KMST of a marine accident, an investigator at a district MST begins to investigate. Based on the initial findings, if investigator believe that the accident should be inquired further, he refers that case to the Court of the district MST.

**Inquiry and judgement**

When a marine accident is referred to a district MST Court, the judges examine the case by questioning the persons involved and make a judgement in the Court. Three judges discuss the circumstances of the case and come to verdict.

Korean Maritime Safety Tribunal

### Flowchart of Marine Accident Investigation




Korean Maritime Safety Tribunal

## 4. Investigation and Inquiry Procedure

**Instance**

If the investigator or the person involved in the marine accident does not accept the judgement of the local MST Court, they can appeal and request the KMST in Seoul to reexamine the case, If they reject the KMST's rulling, they can take the case to the Supreme Court.

| (First) | | (Second) | | (Third) |
|---|---|---|---|---|
| District MST | ⇨ | KMST | ⇨ | Supreme Court |
| | | Appeal process | | Appeal process |

Korean Maritime Safety Tribunal

## 4. Investigation and Inquiry Procedure

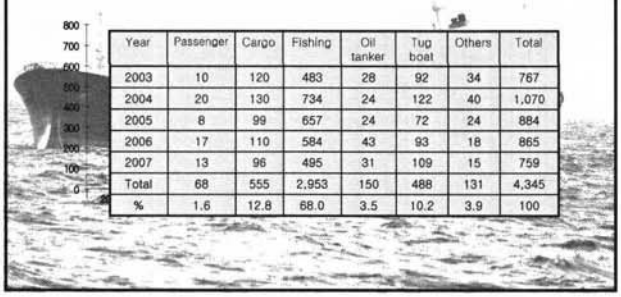
**Execution of judgement**

- If a marine accident is determined to be caused by an international act or negligence of a ship's officer or pilot on duty, the district MST and the KMST sentence will decide the appropriate disciplinary action.
- The district MST and the KMST may, if necessary and appropriate, impose disciplinary action against other person(s), in addition to those mentioned, who are involved in the accident

Korean Maritime Safety Tribunal

## 5. Statics

**Marine accidents (vessel type)**




| Year | Passenger | Cargo | Fishing | Oil tanker | Tug boat | Others | Total |
|---|---|---|---|---|---|---|---|
| 2003 | 10 | 120 | 483 | 28 | 92 | 34 | 767 |
| 2004 | 20 | 130 | 734 | 24 | 122 | 40 | 1,070 |
| 2005 | 8 | 99 | 657 | 24 | 72 | 24 | 884 |
| 2006 | 17 | 110 | 584 | 43 | 93 | 18 | 865 |
| 2007 | 13 | 96 | 495 | 31 | 109 | 15 | 759 |
| Total | 68 | 555 | 2,953 | 150 | 488 | 131 | 4,345 |
| % | 1.6 | 12.8 | 68.0 | 3.5 | 10.2 | 3.9 | 100 |

Korean Maritime Safety Tribunal

## 5. Statics

**Investigation**

| Year | Transferred From previous year | New | Total | Disposal | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Req. Judge. | Dismissed | | Transferred to next year | Total |
| | | | | | Not applicable | Not necessary | | |
| 2005 | 283 | 658 | 941 | 193 | 3 | 500 | 244 | 941 |
| 2006 | 244 | 657 | 901 | 179 | - | 471 | 251 | 901 |
| 2007 | 251 | 566 | 817 | 193 | 2 | 468 | 154 | 817 |

**Inquiry**

| Year | Transferred From previous year | New | Total | Judgement | Transferred to nest year |
|---|---|---|---|---|---|
| 2005 | 62 | 194 | 256 | 184 | 72 |
| 2006 | 72 | 179 | 251 | 182 | 69 |
| 2007 | 69 | 193 | 262 | 188 | 74 |

Korean Maritime Safety Tribunal

## 5. Investigation Policy for IMO Investigation Code

- Under consideration of accepting IMO investigation code to domestic law
  - Collection of internal opinions
  - Comparison with other investigation agencies

Korean Maritime Safety Tribunal

# KOREAN MARITIME SAFETY TRIBUNAL(KMST)

中央海洋安全審判院

The Korean Maritime Safety Tribunal(KMST) was established in 1963 to investigate marine accidents and seek out ways to prevent them.

## (6) マレーシア

*THE EXPERTS MEETING ON PROMOTING CO-OPERATION OF THE MARINE CASUALTY INVESTIGATION IN ASIA*

*25-26 June 2008*

*Tokyo, Japan*

1

# *MV SETIA MEGA - SANK*

*27 November 2007*

*Muhammad Shuhaimi Abd. Rahman*

*MARINE DEPARTMENT*

*MALAYSIA*

2

### *Ship Particulars*

| | | |
|---|---|---|
| *Name of Vessel* | : | *MV Setia Mega* |
| *Port of Registry* | : | *Labuan, Malaysia* |
| *Type of Vessel* | : | *Anchor Handling Tug* |
| *Year of Built* | : | *2005* |
| *GRT/NRT* | : | *496/149* |
| *IMO* | : | *9338450* |
| *Class* | : | *BV* |
| *Crew on Board* | : | *14* |
| *Cargo on Board* | : | *3 units of N2 tanks (each 13 tns)* |

### *Incident Information*

| Item | Particulars |
|---|---|
| Date of Incident | November 29, 2007 |
| Time Of Incident | 1225 hrs |
| Location | Off Resak Oilfield , 05° 28.8N / 104° 03.4E |
| Weather | Strong breeze , swell 3-4 meters ,wind speed 27 knots |
| Master In Command | Capt Imran Tanjung , >5 years as Master on board offshore vessel |
| Cargo on Board | 3 units of Nitrogen tanks (size 8'x6'x8') each weighing 13 tons |
| ROB (during incident) | MGO – 173,643 liters, FW-163,900 liters, LO-914 liters, Hydraulic Oil – 600 liters (in drums) |

4

### *Description Of Incident*

- *Vessel underway from KSB to DLB experiencing strong breeze and high swell;*
- *On voyage, vessel lost stability due to excessive listing to port ;*
- *Crews abandoned ship, boarded life raft and rescued by another boat;*
- *Ship sank- 70meters depth*

5

### Events Leading to Incident

| Date | Time | Description |
|---|---|---|
| **26/11/07** | 1200hrs | MV Setia Mega departed from Dulang B (Location PFSO) to Kemaman Supply Base (Port) for scheduled maintenance and taking provision. On board, deck space 95% occupied with backload.<br><br>Weather-Swell 1.5-2 meters, Wind N-E , Wind speed – 15-20 knots. |
| | | 3rd Engineer inspected steering gear room and found no abnormalities. |

6

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| **27/11/07** | 0330hrs | Vessel arrived at KSB anchorage and dropped anchor. |
| | 0900hrs | Anchor aweigh and proceed to KSB Berth#3. |
| | 1040 hrs | Internal Audit by Company. |
| | 1045 hrs | Commenced maintenance in E/R by ships' staff & Company's maintenance team. |
| | | Maintenance done :<br>1. Service M/E stbd side injectors,<br>2. Repair M/E stbd exhaust silencer,<br>3. Repair A/E 1 starter motor. |

7

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| 27/11/07 | 1200 hrs | Load MGO 50,000 ltrs. |
| 28/11/07 | 1755 – 1810 hrs | Loading 3 units N2 tank (8'x6'x8') weight 13 tonnes each. |
| | 2000 hrs | Vessel departed KSB to DLB. |
| | | Departure condition : |
| | | Draft Fwd : 4.0 m Aft:4.3 m. |
| | | MGO – 174,143liters, FW-166,400 liters, LO-914 liters, Hydraulic Oil – 600 liters (in drums) |
| | 2000 – 2100 hrs | Routine round check by 3/Engineer including steering gear room and found no abnormalities. |

8

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| 29/11/07 | 0700 hrs | 2/Officer on duty observed the vessel's mooring rope stowed on deck stbd crash bar was partly washed over the stern. |
| | | The Master altered course to allow the crew to recover the rope and the vessel resumed passage on original course. |
| | | Crews noticed cargoes remained intact. |

9

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| 29/11/07 | 0915 hrs | 2/Officer transmitted the routine vessel's daily report(for 28 Nov. 2008) to Owner |
| | 1000 - 1019hrs | Master on bridge noticed rudder angle indicator showed erratic movement. Master and 2/officer attempted to rectify the fault by changing auto pilot to manual, switching on and off button for steering motor, change over from fwd to aft control, but the fault remained. |

10

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| 29/11/07 | 1000 - 1019hrs | In E/room, alarm sounded and E/cadet noticed steering gear fault alarm, steering gear room bilge high level alarm and FO daily tank high level alarm. |
| | | E/cadet went up to bridge to find out and then instructed by Master to check steering compartment. E/cadet and Oiler proceeded on deck for inspection and noticed the port side stern area below water and portside steering compartment access hatch coaming submerged. |

11

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| 29/11/07 | 1000- 1019hrs | Attempted to open the stbd side hatch cover but was unsuccessful because of heavy roll and strong sea wash. |
| | | Master slowed down M/engine to allow E/cadet inspect the steering room compartment again. |
| | | Based on discussion between Master, C/E and E/cadet, they suspected steering gear room flooded. |

12

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| 29/11/07 | 1000-1019hrs | Master clutched out both M/engines and as a result, sinkage at stern and port list appeared to be more severe<br><br>At this juncture, few crew members noticed cargo lashings already loose and 3 cargoes started shifting |

13

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| 29/11/07 | 1000-1019hrs | Immediately, C/E, 3 Engineer, E/Cadet and Oiler in the engine room attempted to dewater the steering compartment.<br><br>While opening the valves and before they could start the GS pump, a blackout occurred due to tripping of the main circuit breaker.<br><br>Engineers closed the breakers but each time it tripped. |

14

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| 29/11/07 | 1000-1019hrs | Realizing that they were not able to control the flooding without electrical power, CE notified Master and ordered his engine crew to close up the access doors to accommodation @ main deck and engine room. CE activated the fuel tanks remote closing valves and the Main engines and generator engine later stopped |
| | 1020-1114hrs | 2nd Officer contacted various parties and vessels within vicinity for assistance. Before engine crew left the e/room, they noticed excessive water leaking through the emergency escape access hatch deck port side |

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| 29/11/07 | 1000-1019hrs | Realizing that they were not able to control the flooding without electrical power, CE notified Master and ordered his engine crew to close up the access doors to accommodation @ main deck and engine room. CE activated the fuel tanks remote closing valves and the Main engines and generator engine later stopped |
| | 1020-1114hrs | 2nd Officer contacted various parties and vessels within vicinity for assistance. Before engine crew left the e/room, they noticed excessive water leaking through the emergency escape access hatch deck port side |
| | 1115hrs | Master ordered vessel to be abandoned. By this time three nitrogen tanks shifted to aft and about to fall overboard |
| | 1130hrs | All 14 crew members in life-raft waiting to be rescued |

## Events Leading to Incident (Con't)

| Date | Time | Description |
|---|---|---|
| 29/11/07 | 1200hrs | MV Osam Manila rescued all 14 crews |
| | *1225hrs* | ***MV Setia Mega sank more or less vertically with stern down*** |

***Position Recorded :***
***05° 28.8 N / 104° 03.4 E***
***Depth approximately 70 meters***

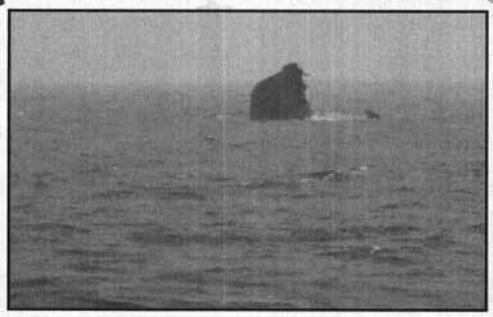
17

***Ship Listing***

18

Shipping Water on deck

19



The Final Event

20

## *Findings*

- The ingress of water to the steering gear compartment was affirmed by the high bilges alarm and subsequent failure of the steering gear motor;
- The water ingress that contributed to the failure of the steering gear motor, causing numerous trips to the main breaker resulting in vessel's power outage;
- Neutralizing the engine caused water shipping on deck adding more weight to the vessel causing it to trim further by stern;
- Engine room flooding experienced from ingress of water to the emergency escape hatch;
- Eventual flooding of the engine room resulted in the vessel sinking;

21

## *Water Ingress*

### i. Mushroom (Ventilation)

- ***Crew unawareness***
- ***Least focus for maintenance***


22

## *ii. Hatch Cover*

- **Left unlocked - 3rd Engineer last to enter**

23

## iii. Rudder Bush

- **Can drop and cause water ingress**
- **Unlikely to happen as at 0700hrs vessel can still change course and maneuvered**

24

## Recommendation

| Item | Issue | Action Required | Responsible Party | Short Term/Long Term |
|---|---|---|---|---|
| 1 | Training | Provide refresher briefing to vessels' Masters and Officers on action during power outage and critical situation | Fleet Management Division | Short Term & Long Term |
| 2 | Procedure | • Ensure effective pre-departure check by Master through witnessing by the Base Operations Manager<br>• Provide briefing to vessels crew on the required pre-departure checks to be conducted | • Base Operation Managers<br>• Fleet Management Division | •Short and Long Term<br>• Short and Long Term |
| 3 | Recruitment process | Strengthen the recruitment process with focus on job knowledge verification | **Crew Management Department & Recruitment Panel** | Short and Long Term |

## Recommendation (Con't)

| Item | Issue | Action Required | Responsible Party | Short Term/Long Term |
|---|---|---|---|---|
| 4 | Maintenance Day | Periodic adequate maintenance days be provided by Client as per vessel's PMS | Client / AMSB | Short and Long Term |

26

## Lessons Learnt

- To ensure integrity of water tightness must be verified before each voyage;
- To ensure Pre-departure checklist to be executed by Master and witnessed by the Base Operations Manager at supply bases;
- To ensure steps or methods to keep the vessel afloat must be fully explored and understood by the vessel's crew e.g de-ballasting etc.;
- To ensure personnel should not be overcome by panic;
- To ensure mandatory ship drills are carried out as they are vital during actual emergency;

27

***Thank You***

*(Aigato gozaimasu)*

28

(7) モンゴル

## MONGOLIA MARITIME ADMINISTRATION

Mongolia Maritime Administration was established in 2007 under the Ministry of Road Transport and Tourism as Government Implementing Agency in order to implement the Government policy on maritime issues and domestic water transport.

Mongolia has passed its national Maritime Law in 1996 and became a member IMO since 1996. Mongolia has ratified over 12 main conventions of IMO and participates in General Assembly meeting of IMO gradually.

Since 2003, Mongolia has established a Joint Venture company "Mongolia Ship Registry" with Singaporean company "Maritime Chain". At present in our registry over 300 ships operates actively around the world.

Maritime Administration is in charge of implementing national policy on maritime shipping, ships registry and developing the maritime sector in its country. Despite its location as a landlocked country, Maritime Administration works on accessing to the International Maritime conventions through which country can obtain some advantages from the sea.

Main Activity of Administration

- Implementation of Government policy in maritime sector and also inland water transport;
- Accession in IMO and international conventions;
- Investing and promoting to develop newly established sector in Mongolia, maritime and inland water transport;
- Developing national laws and regulations on the matter;
- Monitoring on implementation of national laws and regulations;
- Maintaining and controlling over Mongolia Ship Registry;
- Working jointly with IMO and other international organizations on training its stuff and national officers;
- Assisting and promoting on development of domestic water transport entities by its professional knowledge and training their stuff;
- Registration and certification of domestic water transport vehicles;

Maritime Administration
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Ulaanbaatar 210628
Tel: +976-70114801
Fax: +976-70114802
e-mail: transdep@mongol.net
web site: www.monmarad.org

# (8)ミャンマー

Expert Meeting on
Promoting Co-operation of the Marine
Casualty Investigation in Asia

( Tokyo , Japan , 25th to 26th June, 2008)

Participant

Capt. Htay Lwin Oo

Deputy Director

## Introduction

Myanmar is situated at

- South East Asia
- North and North-East bounded by China
- East and South-East bounded by Laos and Thailand
- South bounded by the Andaman sea and the bay of Bengal
- West bounded by Bangladesh and India
- between latitudes 09° 32'N and 28° 31' N
- Longitude 92° 10 E and 101° 11'E
- an area of 677,000 square km
- ranging 936 km from the east to west ,2051 km from north to south


Myanmar has a sea coast on the Bay of Bengal to the South and West. Myanmar has a long extended coastline of about 2229km and 9 ports for sea going ships but only 4 ports (Yangon, Sittwe, Pathein and Mawlamyine Ports) can be used for international trade. There are many rivers and creeks in Myanmar. Among them Ayeyarwaddy, Chindwin, Thanlwin, Sittaung and Kalardan are major rivers, which run down through the country from the north to the south, and in lower Myanmar, the delta region is crisscrossed with many waterways.

**The main functions of the DMA are mentioned in the followings:**

1. **Advisory Functions Planning and policy making, especially in its final stage is expected to be a political function of a Government.**
2. **Administration Functions**
3. **Regulatory Functions and**
4. **Development / Promotional Functions**

**In this regards, the primary functions are expected to take the form of:**

- **(i) General Superintendence and co-ordination**
- **(ii) Registration of Ships and related functions**
- **(iii) Surveys, Inspections and Certification of Ships, along with related activities**
- **(iv) Examination and Certification of Seafarers**
- **(v) Manning of ships**

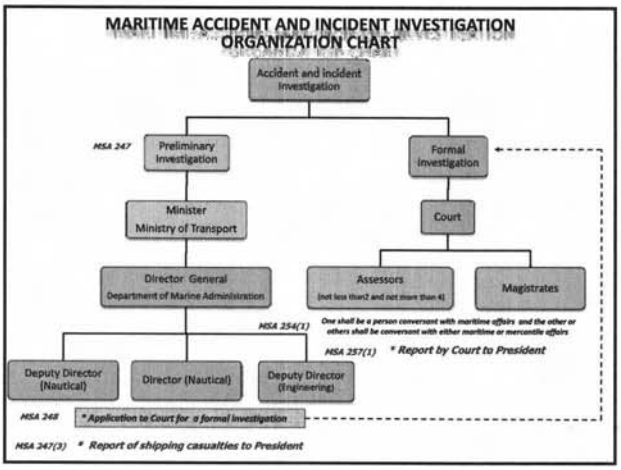
- **(vi) Conducting Inquiries / Investigations into Shipping casualties**
- **(vii) Dealing with matters pertaining to Prevention / Control / Combat of marine pollution**
- **(viii) Dealing with matters pertaining to Maritime Search and Rescue**
- **(ix) Dealing with security measures relating Ships and Ports security and implementing ISPS code in Myanmar**
- **(x) Recruitment of seamen, arrangement for education, proper training, determination of qualification and grading**
- **(xi) Ensuring Safety of Fishing vessels and other small crafts**
- **(xii) Dealing with wrecks in National Jurisdiction**
- **(xiii) Advising the Ministry and Government on all maritime technical matters**

(xiv) Registration of foreign vessels under the terms of Bare boat chartering

(xv) Preparation of explanation on the matters covered by the IMO conventions or instruments and provide it to the Ministry of Transport and the Attorney General's Office.

In relation to the qualified and well trained seafarers and educated marine personnel, the DMA works together with the IMT and the MMU.

## MARITIME ACCIDENT AND INCIDENT INVESTIGATION ORGANIZATION CHART




## SPECIAL SHIPPING INQUIRES AND COURTS

For the purpose of inquires and investigations under this part a shipping casualty shall be deemed to occur when –

(a) on or near the coasts of the Union of Myanmar, any ship is lost, abandoned, stranded or materially damaged ;

(b) any lost of life ensures by reason of any casualty happening to, or on board of, any ship on or near those coasts ;

(c) on or near those coasts, any ship causes loss or material damage to any other ship ;

* the word "coast" includes the coasts of creeks and tidal rivers.

Whenever any such officer receives credible information that a shipping casualty has occurred, he shall forthwith report in writing the information to the President of the Union of Myanmar and may proceed to make a preliminary inquiry into the casualty.

An officer making a preliminary inquiry under this section shall sent a report thereof to the President of the Union.

The officer appointed under MSA 246(3), whether he has made a preliminary inquiry or not, may, and where the President of the Union so directs, shall make an application to a Court empowered under section 249, requesting to make a formal investigation into any shipping casualty ; and the Court shall thereupon make such investigation.

A Court making a formal investigation shall constitutes as its assessors not less than two and not more than four persons, of whom one shall be a person conversant with maritime affairs and the other or others shall be conversant with either maritime or mercantile affairs.

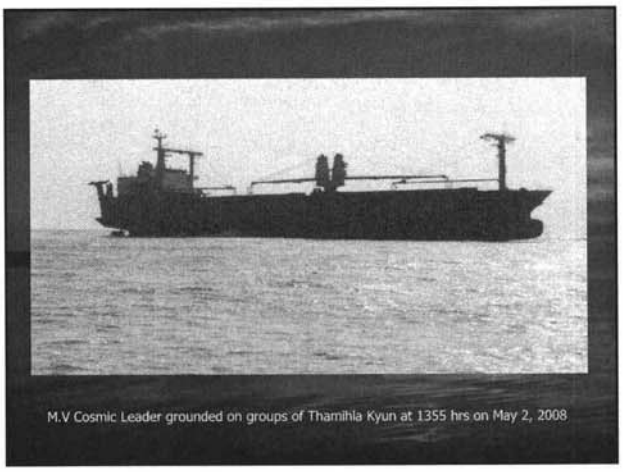
The Court shall, in the case of all investigation under this part, transmit to the President of the Union a full report of the conclusions at which it has arrived, together with the evidence.

In cases in which, under the Merchant Shipping Acts, the Court is required to send a report to the Board of Trade, the report shall be sent through the President of the Union and the transmission of the report to the President of the Union shall be a sufficient compliance with this sub-section.

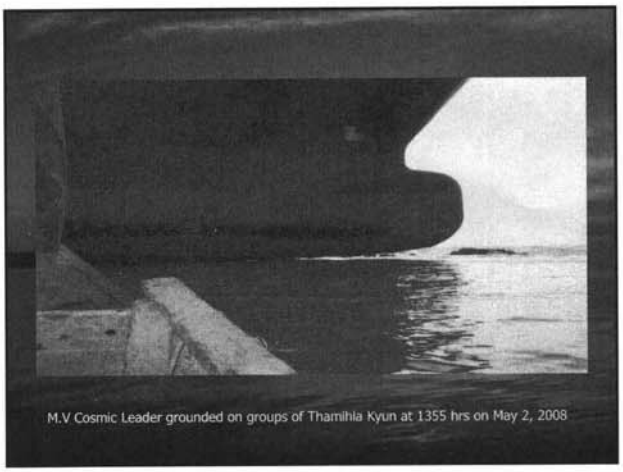
## CASE STUDY OF

## *"M.V COSMIC LEADER GROUNDING"*

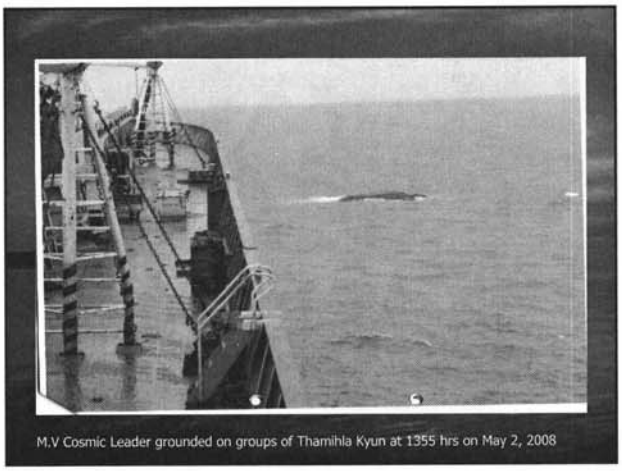
- Panama Registered vessel mv. Cosmic Leader, IMO No. 9011040, GT. 8889 was grounding due to hitting by Cyclone "Nargis" about 1355hrs on 02 [illegible] 2008 within Myanmar internal water in psn: Lat [illegible] 50.4 N , Long. 094 16.0E on the way from Port of Pathein to safer place for avoiding Cyclone. All crew [illegible] Phillipino were saved by Myanmar SAR.



M.V Cosmic Leader grounded on groups of Thamihla Kyun at 1355 hrs on May 2, 2008



M.V Cosmic Leader grounded on groups of Thamihla Kyun at 1355 hrs on May 2, 2008



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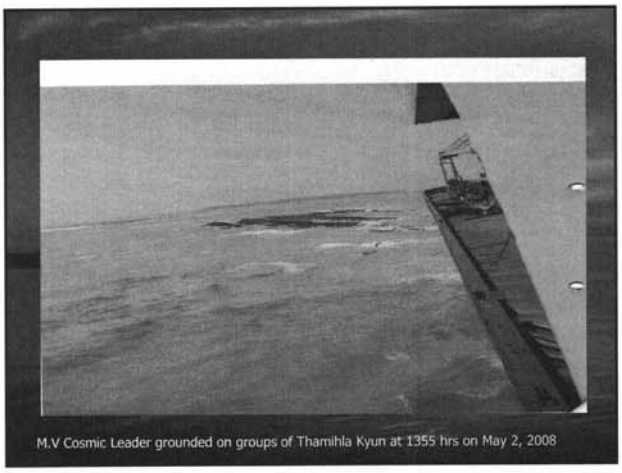

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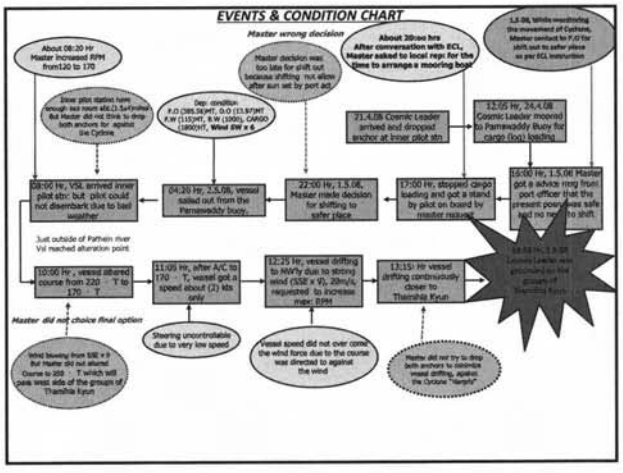
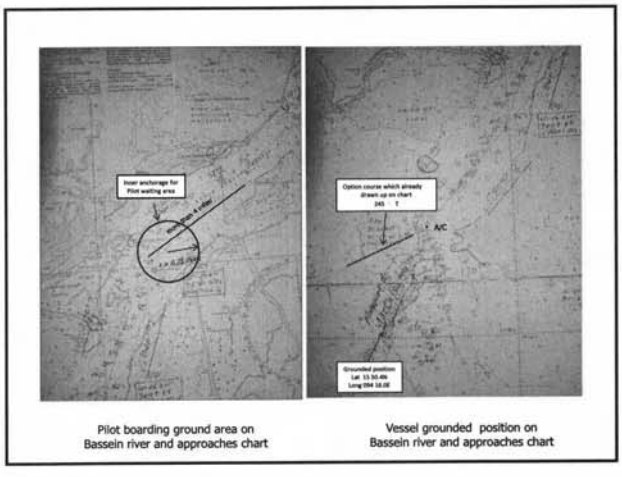



Pilot boarding ground area on Bassein river and approaches chart

Vessel grounded position on Bassein river and approaches chart

INVESTIGATION INTO CASUALTIES

- when ever–
- (a) any inland steam-vessel has been wrecked, abandoned or materially damaged : or
- (b) by reason of any casualty happening to, or on board of, any inland steam-vessel, lost of life has ensured : or
- (c) any inland steam-vessel has caused loss or material damage to any other vessel
- The master of the steam-vessel shall forthwith give notice of the [illegible], abandonment , damage, casualty, or loss to the officer in charge of the nearest police-station

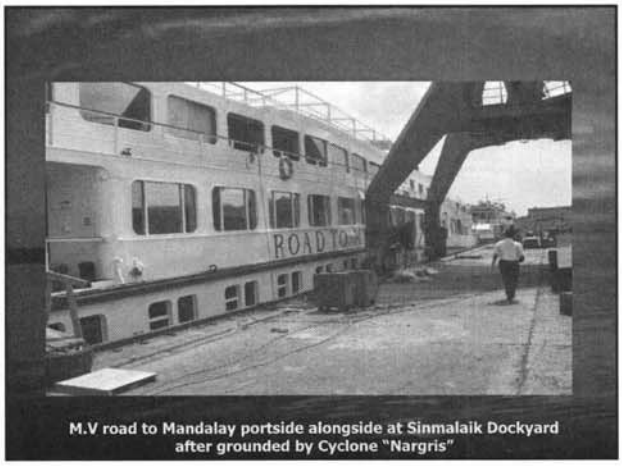
- If a formal investigation into the facts of any case reported under section 32 appears to the President of the Union to be expedient, the President of the Union may-
- (a) appoint a special Court and direct the Court to make the investigation at such place as the President of the Union may fix in this behalf ; of
- (b) direct any principal Court of ordinary criminal jurisdiction or the Court of any District Magistrate to make the investigation.

A special Court appointed under clause (a) of sub-section (1) shall consist of not less than two nor more than four persons, of whom one shall be a Magistrate, one shall be a person conversant with maritime affairs, and the other or others (if any) shall be conversant with either maritime or mercantile affairs or with the navigation of inland steam-vessels.

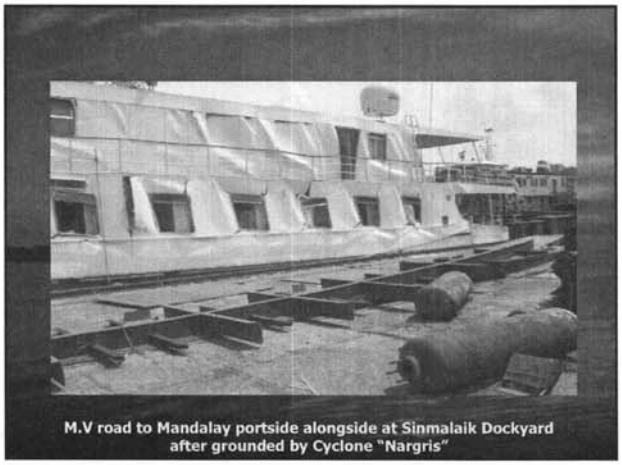
CASE STUDY OF

*"M.V ROAD TO MANDALAY GROUNDING"*

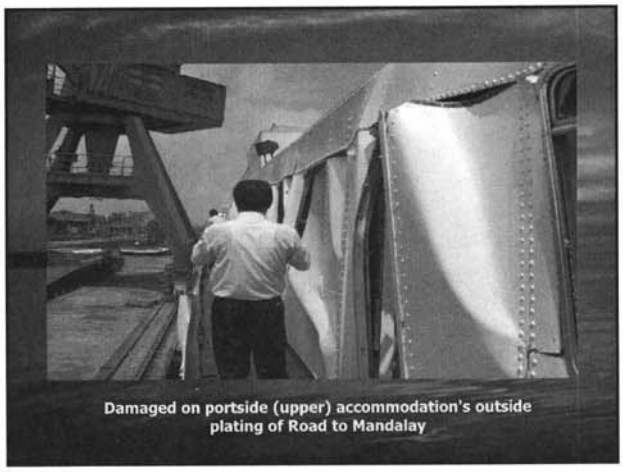
- Myanmar Registered inland vessel mv. Road to Mandalay, Off No. 8199, GT. 1916 was grounding due to hitting by Cyclone "Nargis" abo[illegible]55hrs on 03.05.2008 within Myanmar (Yangon) [illegible]er in psn: Lat. 16 49.51 N , Long. 096 06.9E while she waiting to enter the Sinmalike Dockyard at mooring [illegible]oy. All crew ,19, Myanmar were saved alive.



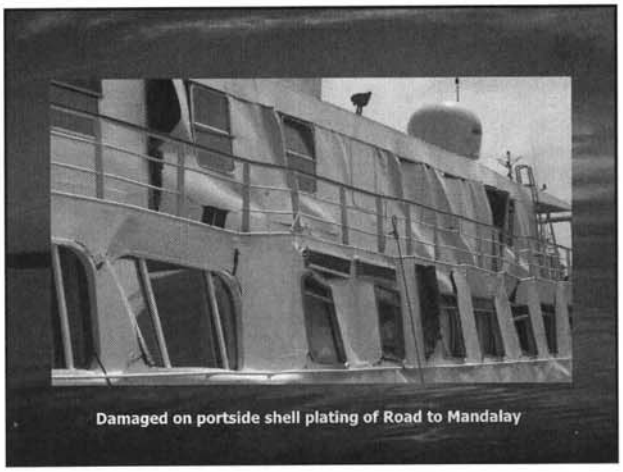

M.V road to Mandalay portside alongside at Sinmalaik Dockyard after grounded by Cyclone "Nargris"



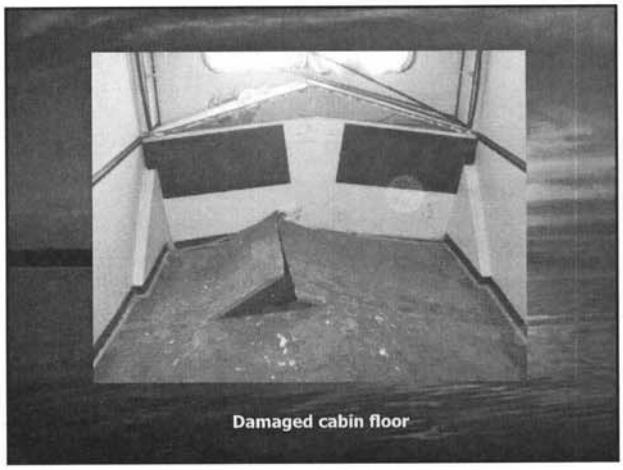
M.V road to Mandalay portside alongside at Sinmalaik Dockyard after grounded by Cyclone "Nargris"



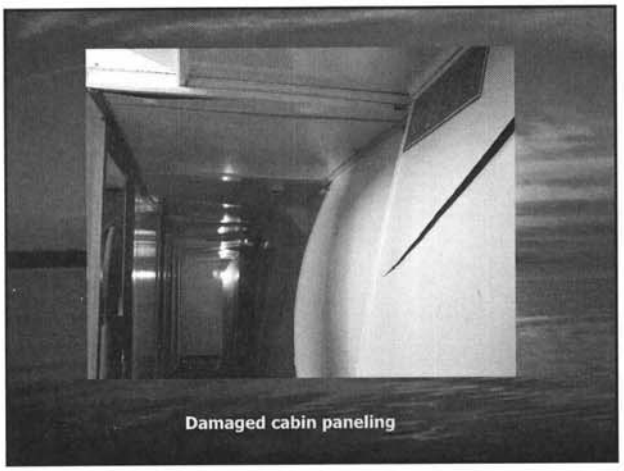
Damaged on portside (upper) accommodation's outside plating of Road to Mandalay



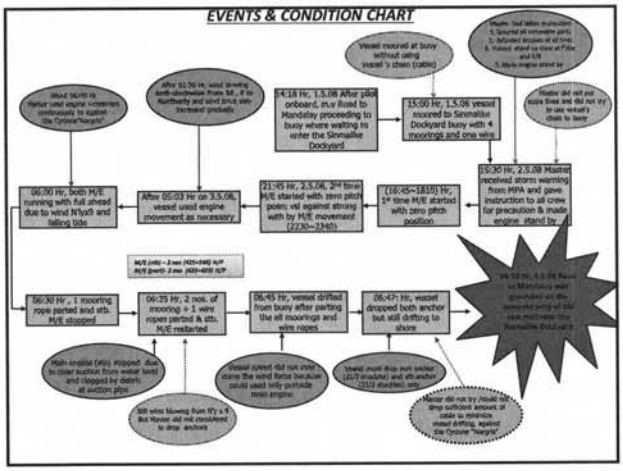
Damaged on portside shell plating of Road to Mandalay

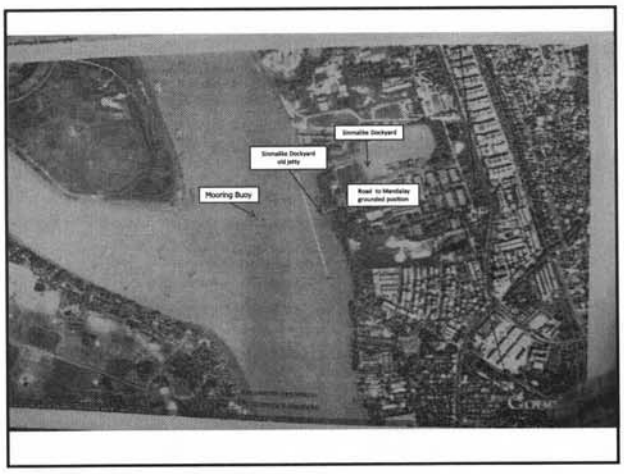


Damaged cabin floor



Damaged cabin paneling



## Necessity of Maritime Causality Investigation in Myanmar

The necessity to be fulfilled for accident and incident causality Investigation in Myanmar are as follow:-

(i) Extend a new set up as a branch of Department of Marine Administration

(ii) Formulate the national legislation accordance with the Investigation of Marine Casualties and Incident Code

(iii) Provide facility for site investigation within Myanmar territorial water and Inland water

(iv)Need more training for well trained personal

Our country always adopted formulated rule and regulations from IMO, and International Convention; and we are ready to perform co-operation with neighboring countries.

## (10) ロシア

Investigation of Marine Casualties in the Russian Federation.

Proceeding from the assumption that Practice of investigation of Marine Casualty in every country is differ from practice in others, it is advisable to show particulars in the Russian Federation practice to the participants of the Meeting.

Marine Casualties in Russian ports are investigated according to Rules of investigation of Marine Casualty.

Marine Casualties are classified to:

1. Shipwreck;
2. Casualty;
3. Event with elements of casualty;
4. Operation incident.

Shipwreck means that involved ship is totally lost or the ship is damaged to such an extent that subsequent operation of it became impossible.

Casualty applies in cases of death of person connected with casualty and when a passenger ship loses even if one of nautical characteristic.

Event with elements of casualty - means that a cargo ship loses even if one of nautical characteristic. The classification society takes final decision in disputable cases.

Operation incident means insignificant damages when no one of nautical characteristic is lost.

Preliminary classification is carried out by Captain of the ship, final by the Harbour Master.

The objective of Marine Casualty investigation is to prevent such casualties in the future. Investigations identify the circumstances of the casualty under investigation and establish the causes and contributing factors, by gathering and analyzing information and drawing conclusions. It is not the purpose of such investigations to determine liability or apportion blame. All items violated (if any) should be indicated in Act of investigation.

Preliminary investigation of each Marine Casualty is carried out by the Captain of involved vessel. Captain is responsible to investigate Operation incident fully. The main purpose of Captain's investigation is to establish that risk admitted by him does not exceeded permissible limit. Risk is admitted warranted, that should be showed in the process of investigation, if:

risk corresponds the aims;
the aim could not be reached by ordinary not connected with risk actions;
risk does not turn into deliberate damage;
the life should be the object of risk

If Operation incident occurs in a port, full investigation is carried out by the Harbour Master.

If a Marine Casualty with Russian ship happens on the high seas, the Harbour Master of first port of call investigates the case.

Marine Casualty investigation is given the same priority as criminal or other investigations established to determine responsibility or blame.

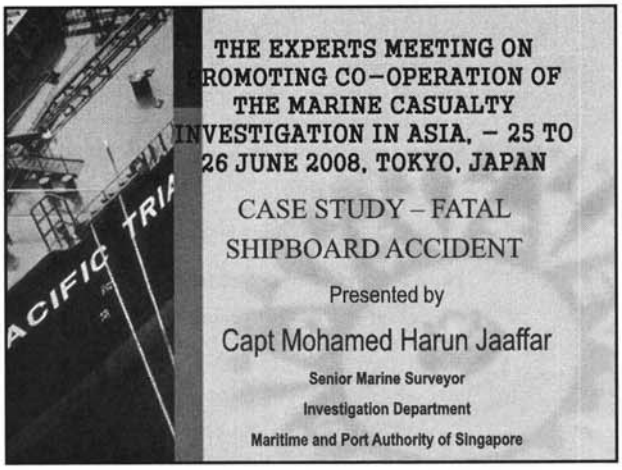
Marine Casualty investigation is a process held for the purpose of casualty prevention which includes the gathering and analysis of information, drawing of conclusions, including the identification of the circumstances and the determination of causes and contributing factors and, appropriate, the making of safety recommendations.

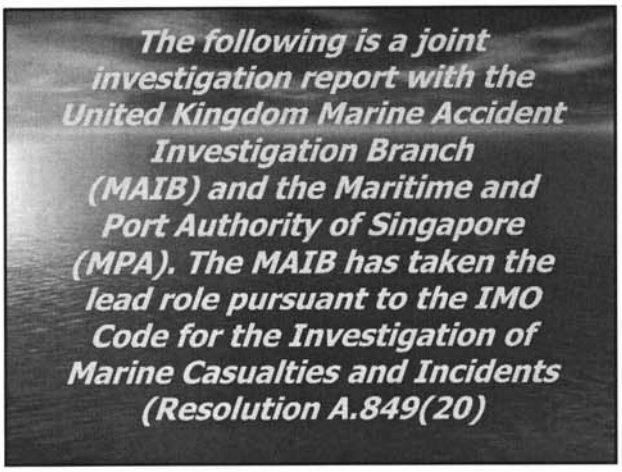
It is necessary to harmonize Rules of investigation of Marine Casualty in the Russian Federation to Code adopted in May 2008. Nowadays a new draft of Rules of investigation of Marine Casualty is being worked out.

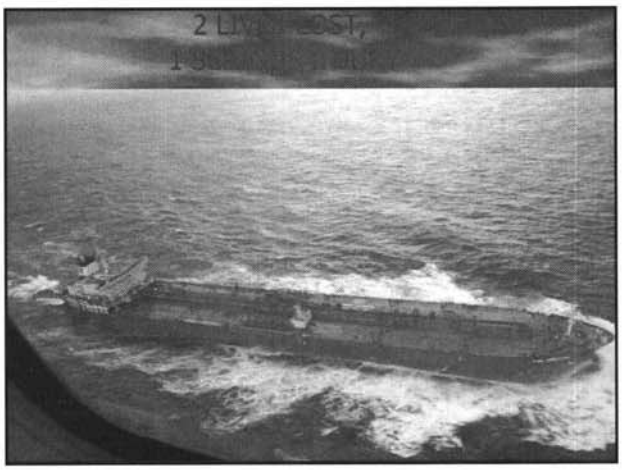
In the Russian Federation the main person who investigates marine Casualty is the Harbour Master. He in some cases (if he considers indispensable) organizes special committee for Casualty investigation and heads it. After the case is investigated all materials are sent to the Ship-owner, procurator and to Rostransnadzor (Structure of Transport ministry of the Russian Federation, which controls and supervises in sphere transport). Rostransnadzor makes the final Decision. If Rostransnadzor does not agree with any part of investigation, Act is returned to the Harbour Master for the revision. If agree, forwards to ship- owners and IMO. In addition publish in booklet.

June 11 2008.

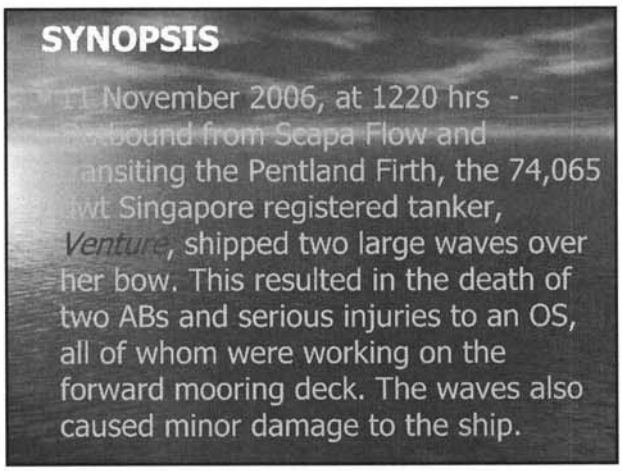
## (11) シンガポール

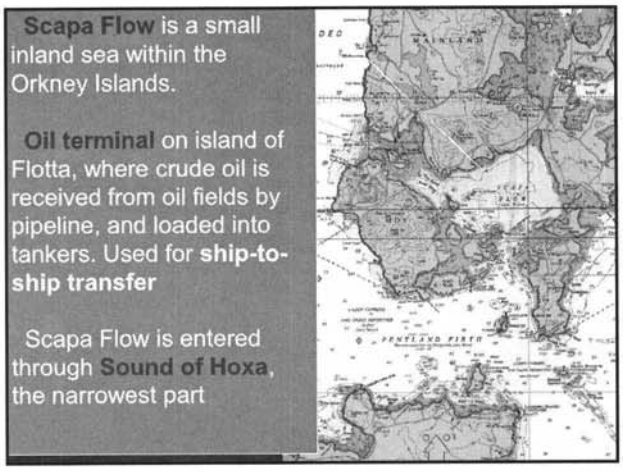

THE EXPERTS MEETING ON
ROMOTING CO-OPERATION OF
THE MARINE CASUALTY
NVESTIGATION IN ASIA, – 25 TO
26 JUNE 2008, TOKYO, JAPAN
CASE STUDY – FATAL
SHIPBOARD ACCIDENT
Presented by
Capt Mohamed Harun Jaaffar
Senior Marine Surveyor
Investigation Department
Maritime and Port Authority of Singapore

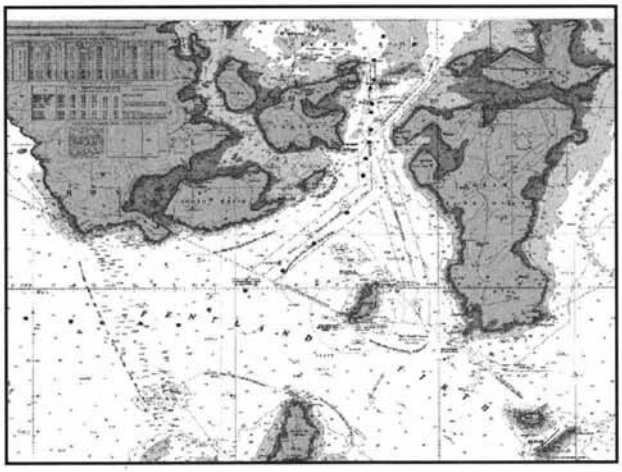

The following is a joint investigation report with the United Kingdom Marine Accident Investigation Branch (MAIB) and the Maritime and Port Authority of Singapore (MPA). The MAIB has taken the lead role pursuant to the IMO Code for the Investigation of Marine Casualties and Incidents (Resolution A.849(20)




Vessel details
Type : Panamax crude oil tanker
Built : 2006 in Jingjiang, China
Construction : Double hull/steel
Length overall : 228.6m
Gross tonnage : 42,010
Deadweight : 74,065 tonnes
Service speed : 15.5 knots
Approximate sailing freeboard of 6.6m
Accident details
Time and date : 1220, 11 November 2006
Location: Latitude 58° 45.1'N Longitude 003° 11.01'W
off Scapa Flow
Persons on board : 24
Injuries/fatalities : Two fatalities and one serious injury
Damage : Minor damage to Suez light davit and to both
windlass gear wheel guards


SYNOPSIS
November 2006, at 1220 hrs -
bound from Scapa Flow and
nsiting the Pentland Firth, the 74,065
wt Singapore registered tanker,
Venture, shipped two large waves over
her bow. This resulted in the death of
two ABs and serious injuries to an OS,
all of whom were working on the
forward mooring deck. The waves also
caused minor damage to the ship.


Scapa Flow is a small inland sea within the Orkney Islands.
Oil terminal on island of Flotta, where crude oil is received from oil fields by pipeline, and loaded into tankers. Used for ship-to-ship transfer
Scapa Flow is entered through Sound of Hoxa, the narrowest part



## Sequence of events

**10 to 11 November**, *FR8 Venture* carried out a ship-to-ship transfer with another tanker and loaded a full cargo of crude oil.

11 Nov – 0536 hrs - Loading operations were completed the daughter vessel cast off and left Scapa Flow.

1054hrs - *FR8 Venture* weighed anchor to depart.

- After weighing anchor, the bosun and AB1 secured the port anchor, and began stowing mooring lines down into the forward storeroom.

## Sequence of events

AB2 and an OS were stowing loose mooring lines at the aft.

1136 hrs - Pilots disembarked near the entrance to Scapa Flow.

The wind was west to west-north-west and near gale force, with waves of about 4 to 5m high.

- The ship's freeboard was about 6.6m and spray was being shipped on board.
- The tidal stream was flowing generally in the same direction as the wind.

## Sequence of events

1210 hrs, C/O told AB2 and the OS to go forward and help the bosun.

AB2 joined AB1 on the starboard winch platform to lash canvas covers around the mooring wires.

- The bosun instructed the OS to place a securing wire through the starboard anchor cable.

## Sequence of events

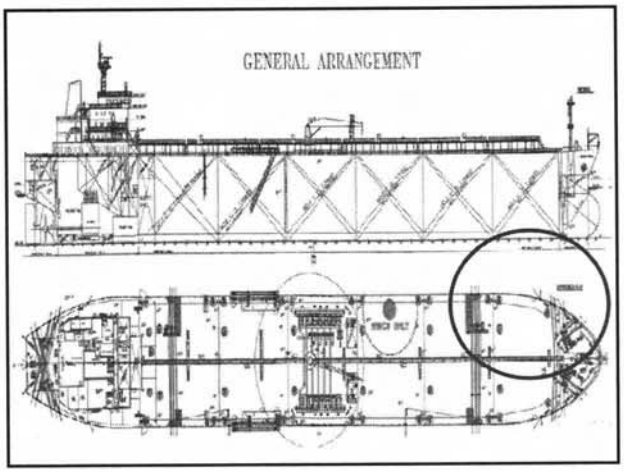
At about 1220 hrs, just as the OS turned towards the anchor cable, a large wave was shipped over the bow. The ship pitched into the following trough and then a second larger wave was shipped on board.

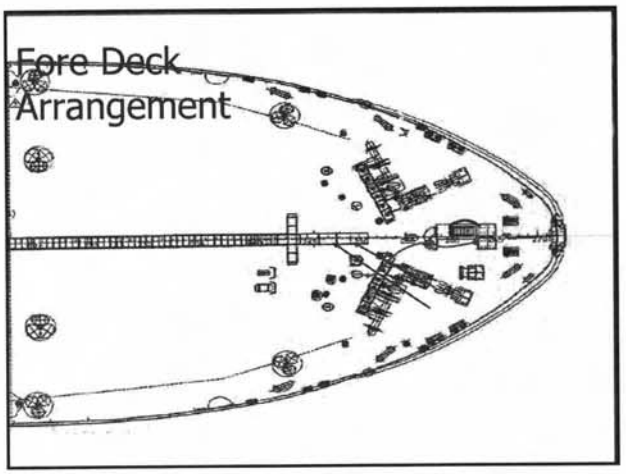
- The two ABs were swept aft, towards and under the flying bridge.

## Sequence of events

The OS was swept aft and came into contact with a protection plate for the forward liferaft.

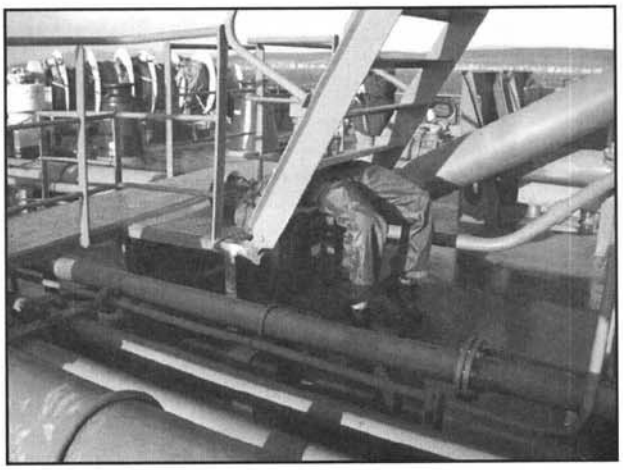
The bosun had managed to cling onto the storeroom door when the first wave was shipped, and then onto the ladder rungs of the foremast as the second wave swept over the foredeck, he remained uninjured.




**Sequence of events**

- The bridge team saw the seas being shipped on deck.
- The third officer released a MOB marker from the bridge wing.
- The general alarm was sounded and the crew mustered at the emergency station.
- The OS managed to walk aft until he reached amidships, where he collapsed.
- All three injured were taken to the accommodation.



**Events following the incident**

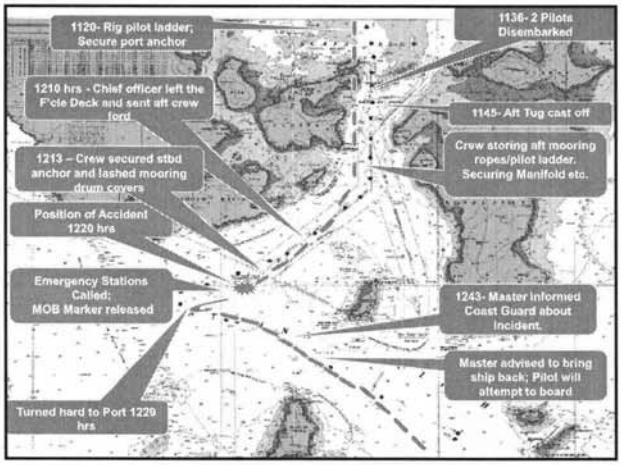
- *FR8 Venture* called Orkney Harbour Control to report the accident and requested for medical assistance.
- Orkney Harbour Control then informed Shetland Coastguard of the tanker's emergency.
- Shetland Coastguard arranged a radio telephone link between the ship's master and a doctor at Aberdeen Royal Infirmary.

**Events following the incident**

- The Longhope RNLI lifeboat took the local doctor out to meet the ship, but the rough seas prevented the doctor from boarding the ship from the lifeboat.
- However, the Stornoway Coastguard rescue helicopter was able to transfer her to *FR8 Venture*.
- Once onboard the vessel, the doctor determined that the two ABs had died of their injuries and the OS should be taken to hospital.

**Events following the incident**

- The helicopter returned to the ship, landed an Orkney Harbour pilot and airlifted the doctor and the OS to Aberdeen Royal Infirmary.
- The ship returned to Scapa Flow and anchored there at about 1800.



PRE-CONSULTATION ACCIDENT REPORT

**The close rapport was enhanced between MAIB and MPA in the course of this investigation**

**MPA gave inputs in the analysis to determine the contributory causes and circumstances of the accident as a basis for making recommendations to prevent similar accidents occurring in the future.**

PRE-CONSULTATION ACCIDENT REPORT

**The analysis focuses on determining whether the shipping of such waves should have been expected and, if so, why the crew members were placed in an area of danger and what precautionary measures should have been taken.**

## Findings & Recommendations

- The two large waves that were shipped over the bows should have been expected in the prevailing weather conditions.
- The master should have delayed the sailing so that the ship could have been secured for sea in sheltered waters.
- Having decided to leave the shelter of Scapa Flow before the decks were secured, a risk assessment should be made and an effective plan of action considered.

## Findings & Recommendations

- The plan could have concentrated the crew securing the forward area first, leaving the stowing of the aft ropes later.
- The plan should have prompted the need for precautionary measures, such as considering the option of turning the ship away from the weather, when safe and practicable to do so, to secure the anchor.

## Action Taken

**FR8 Shipmanagement**

- The ship managers have reviewed and amended their company's SMS procedures for working on deck in heavy weather. This is to ensure that crew on deck are exposed to the elements for the least possible time.

**Maritime and Coastguard Agency**

- The MCA has issued a Safety Alert, which gives a brief outline of the accident and draws attention to the contents of chapter 3 of the Admiralty Sailing Directions (NP52) North Coast of Scotland Pilot. This warns mariners of strong tides, with large waves that frequently occur in the area of Pentland Firth

mca Maritime and Coastguard Agency

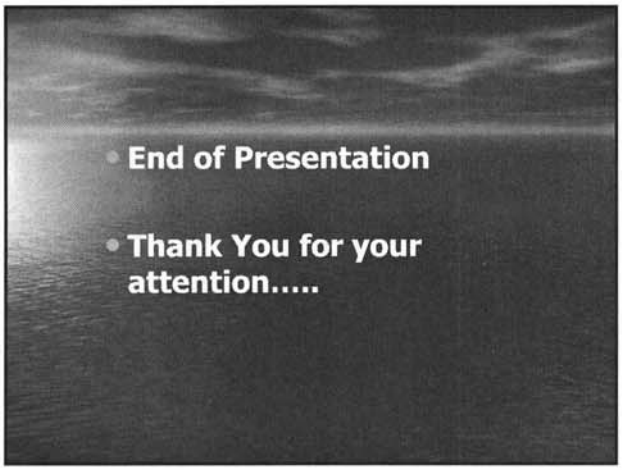
**Safety Alert**

November 2006

**Two Deckhands Killed In Pentland Firth**

1. On 11 November 2006, a laden tanker of 74,000 tonnes deadweight was proceeding out of Scapa Flow into the Pentland Firth, heading for the United States East Coast after having completed a ship to ship cargo transfer.
2. The tanker was approximately 3–4 miles west of the island of Swona in the Pentland Firth and four crew members were on the forecastle head securing the anchors, when it was hit by a number of abnormal waves in succession.
3. Three of the crew were carried aft along the maindeck by the force of the first wave. Two men received injuries which proved fatal. The third is now recovering from spinal and head injuries in hospital.
4. The weather conditions forecast at the time of this incident were westerly gales of 40 to 50 knots and heavy seas. The tide was also flooding from the west.
5. Ship Masters and Deck Officers on vessels transiting the Pentland Firth should be aware of the information given in the Admiralty Sailing Directions North Coast of Scotland Pilot (NP 52) chapter 3, in particular section 3.110 which describes the 'Merry Men of May' forming off St John's Point and extending the whole way across the firth to Tor Ness. "The most violent part...lies over a large sandwave field 3.5 miles west of Stroma. With a west sea or swell the entire race becomes very violent; large waves form suddenly and from varying directions, making them difficult to anticipate or counter."
6. Masters must take the above into serious consideration so as not to jeopardise the safety of their crew when transiting the Pentland Firth. Further advice may be sought from Aberdeen or Shetland Coastguard Rescue Centres if required.

An Executive Agency of the Department for Transport


End of Presentation
Thank You for your attention.....