Expert Group Meeting on Improving Maritime Transport Safety in the ESCAP region

Maritime Safety Policy of Korea

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Marine Accident (Total Loss) Analysis by CAUSE(World)

- **Foundered (sunk or submerged)** is the main cause of loss accounting for almost half (47%) of all losses over the past decade. Wrecked/stranded (aground) is the second major cause of total losses (20%). However, such incidents have declined year-on-year since 2011.

Source: Allianz
Marine Accident (Total Loss) Analysis by VESSEL TYPE (World)

Losses by vessel type 1997 - 2011

- Fish: 24%
- Offshore: 1%
- Misc: 6%
- Tanker: 7%
- Bulk: 8%
- General Cargo: 42%
- Pax: 6%
- Dry Cargo: 6%

Source: 15 Years of Shipping Accidents: A review for WWF, Southampton Solent University, 2012
Marine Accident Analysis (Korea)

- Decreasing No. registered ship (mainly fishing boat)
- Increasing marine accident from ’14 due to changing statistic system (based on Search & Rescue)
Marine Accident Analysis (Korea)

- Share of Fishing boat is very high: 77%(2008), 69%(2015)
- Share of merchant ship: Etc > Cargo > Tug > Oil > Passenger
Changes in Maritime Environment

Safety related issues

• Strengthening Port State Control
• Maritime Labor Convention implementation
• E-navigation strategic management plan
• Polar Code
• Regional conflict
• Piracy
• Increasing Shipping business
  – Size of vessels
  – LNG/hazardous cargo
  – Increasing traffic
Changes in Maritime Environment

Size of container ship

50 years of Container Ship Growth

1968 - Encounter Bay 1,530 teu
1972 - Hamburg Express 2,950 teu
1980 - Neptune Garnet 4,100 teu
1984 - American New York 4,600 teu
1996 - Regina Maersk 6,400 teu
1997 - Susan Maersk 8,000+ teu
2002 - Charlotte Maersk 8,890 teu
2003 - Anna Maersk 9,000+ teu
2005 - Gjertrud Maersk 10,000+ teu
2006 - Emma Maersk 11,000+ teu
2012 - Marco Polo (CMA CGM) 16,000+ teu
2013 - Maersk Mc-Kinney Møller 18,270 teu
2014/2015 - CSCL Globe/MSC Oscar 19,000+ teu
2018 - ??????? 22,000 teu

Container-carrying capacity has increased by approximately 1,200% since 1968

Source: Allianz Global Corporate & Specialty
Approximate ship capacity data: Container-transportation.com
Changes in Maritime Environment

Size of passenger & cruise ship

- How many people on board above ships?
  River boat (30) - Cruise (+ 6,000) > Depends on demand, ship size, role & etc
- Ship Safety Act (In Korea): Passenger ship is carry 13(+) passengers
Changes in Maritime Environment
Paradigm shift of Maritime Safety

Global Paradigm Shift: ‘Reactive’ Policies ⇒ ‘Proactive’ Policies

<table>
<thead>
<tr>
<th>Past/Current</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy Direction</strong></td>
<td><strong>Proactive, Regulation, and Response</strong></td>
</tr>
<tr>
<td>Reactive, Recovery, and Compensation</td>
<td></td>
</tr>
<tr>
<td><strong>Main Agent</strong></td>
<td><strong>Developing Countries (BRICs, ASEAN)</strong></td>
</tr>
<tr>
<td>International Organization (IMO), Advanced Countries</td>
<td></td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td><strong>Extended to Maritime Environment and Security</strong></td>
</tr>
<tr>
<td>Marine Officer, Vessel, Marine Traffic Facility</td>
<td></td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td><strong>Follow-me Strategy</strong></td>
</tr>
<tr>
<td>Me-too Strategy (International Standard, Adopting advanced technology)</td>
<td>(Leading international standard and developing advanced technology)</td>
</tr>
<tr>
<td><strong>Maritime Safety Technology</strong></td>
<td><strong>Integrated IT, Green Tec</strong></td>
</tr>
<tr>
<td>Vessel Safety, IT, Communication (One-way/ Limited two-way)</td>
<td>Full two way communication (GBS, e-NAV, BWM, and so on)</td>
</tr>
<tr>
<td><strong>Viewpoint</strong></td>
<td><strong>Standard and Competitive Factor</strong></td>
</tr>
<tr>
<td>Regulation and Cost Factor</td>
<td></td>
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</tbody>
</table>
Maritime Safety Issues: Korean case
Recent Serial maritime accidents

• Public concerns and anxiety over serial maritime accidents
  – Uisan(2014. 1)
  – Sewol Ferry(2014. 4)
  – 501 Oryong(2014.12)

Sewol Ferry(2014. 4)

• Source : Korea Maritime Safety Tribunal(+Korea Coast Guard)
• Victims : Dead & Missing (exl. Injury)
• Refer : P.5 & P.12
Maritime Safety Issues: Korean case
Recent maritime accidents analysis

- Share of Injury gradually increased: 48%(2008) → 75%(2015)
- Ratio of death is around 20%, except 2014 due to Sewol Ferry
Maritime Safety Issues: Korean case
Problems on shipping lines (coastal)

Coastal passenger shipping business conditions are worsening

- Due to increases in new bridges & accidents, Passenger ship demand is decreased

Aged ships and elderly seafarers have been increasing

- Aged Ships
  - 42 passenger ships are older than 21 years
    - (173 ships in 2015)
  - Total Average age: 15Y
  - Maximum ship age: Car Ferry (20 + 5), Passenger (20 + 10)
    - (Basic year + extensible year)

- Elderly Seafarers
  - Seafarers aged 60 and older consist of 46.6% (in 2015)
  - 50-60 years: 31%, 20-40 years: 20%

Traffic Volume

- Thous
  - 2005: 5,000
  - 2006: 5,000
  - 2007: 5,000
  - 2008: 5,000
  - 2009: 5,000
  - 2010: 5,000
  - 2011: 5,000
  - 2012: 5,000
  - 2013: 5,000
  - 2014: 5,000
  - 2015: 5,000

Chart showing traffic volume from 2005 to 2015.
Maritime Safety Issues: Korean case
Changes in Maritime Safety Governance

• Coast Guard under newly launching Ministry of Public Safety and Security (MPSS)
  – VTS operated by MPSS
• Establishment of Maritime Special Rescue Division
• Collaboration needed among organizations

  • After Sewol Ferry accident (2014.4), Korea Government reorganized safety related organizations including Korea Coast Guard into one Ministry (MPSS)
  • No more serious passenger ship accidents
Maritime Safety Issues: Korean case
Current status of maritime safety

• Difference in safety standard
  – Vessel type, International vs. Korean, governance
• Weak foundation of Korean maritime safety industry
• Lack of marine safety awareness and safety culture
• Shortage of skilled sea men and lack of training and education
• Cultural difference among multinational seamen
Maritime Safety Policy of Korea

Policy direction of Ministry of MOF

Public happiness thru reduced marine accidents

Prevention of Marine Accident
Safety Culture Establishment
Strengthening of International Cooperation

Prevention of marine accidents
Enhancement of vessel safety
Spread of safety culture
Development of maritime safety industries
Strengthening of international collaboration
Maritime Safety Policy of Korea
Focus on Passenger ship

**Improve operation system**

- Reorganized the license and fare system
  - To facilitate the market entry of qualified shipping line
  - Introducing the public offering system for shipping line (operator)

**Improve service quality**

- Promote the participation of municipalities and non-profit organization to low-income routes
- Bidding system reform for subsidy routes

**Increase investment for infrastructure**

- Increases budget for new building
- 5 Years plan for Vessel modernization
# Maritime Safety Policy of Korea

Focus on Passenger Ship

## Improve Safety Measures

<table>
<thead>
<tr>
<th>Classification</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidance · Supervision</td>
<td>Working of 73 safety operators from the Korea Shipping Association</td>
<td>Working of 91 safety operators from the Korea Ship Safety Technology Authority</td>
</tr>
<tr>
<td>Governance</td>
<td>Separation of policy and execution. (MOF &amp; Coast Guard)</td>
<td>Unification of policy and execution. (MOF)</td>
</tr>
<tr>
<td>Sanctions against safety regulations violation</td>
<td>Penalty is up to 30 million won</td>
<td>Penalty is up to 10 billion won</td>
</tr>
<tr>
<td>Check · Passenger &amp; Cargo Management</td>
<td>Captain check, Safety operators’ not sufficient confirmation</td>
<td>Joint inspection of captain and Safety operator</td>
</tr>
<tr>
<td></td>
<td>perfunctory identification</td>
<td>Strengthening procedures for identification</td>
</tr>
<tr>
<td>Cargo Management</td>
<td>Autonomy of the shipping companies</td>
<td>Obligation of weighing certificate checking, Electronic ticketing</td>
</tr>
</tbody>
</table>
# Maritime Safety Policy of Korea

## Focus on Passenger ship

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<thead>
<tr>
<th>Classification</th>
<th>Before</th>
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<tbody>
<tr>
<td><strong>Vessels &amp; Equipment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ship’s age</td>
<td>All the passenger ship up to 30 years</td>
<td>Ships including a car ferry up to 25 years</td>
</tr>
<tr>
<td>VDR equip</td>
<td>International passenger ship and over 3,000 tons cargo ship</td>
<td>Over 300 tons ship(secondhand/imported)</td>
</tr>
<tr>
<td>Strengthen requirements for life-saving appliance</td>
<td>The number of life Jackets in coastal liners must be equivalent to 100% of the maximum passengers</td>
<td>Expansion to 110%</td>
</tr>
<tr>
<td></td>
<td>Installing more than one of escape auxiliary device in a car ferry passenger</td>
<td>Installing more than two of escape auxiliary device in a car ferry passenger</td>
</tr>
<tr>
<td><strong>Passenger &amp; Cargo Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualification of a captain</td>
<td>Captain(2nd officer) Only one time of aptitude test for the large passenger ship’s captain</td>
<td>Enhanced qualifications for the large passenger ship.(First officer) Regular enforcement of aptitude test</td>
</tr>
<tr>
<td>Crew’s uniform</td>
<td>Autonomy of shipping company</td>
<td>Obligation of uniform wearing for crews</td>
</tr>
<tr>
<td>Emergency training</td>
<td>Writing and recording on only voyage log</td>
<td>Additional obligations for video recording and picture</td>
</tr>
<tr>
<td>Education for crew</td>
<td>Exemption of safety training, Lack of training education &amp; Job training</td>
<td>Abolition of re-safety training exemption, Re-organisatiion of education for mainly practice, Set up for safety and Job training education</td>
</tr>
<tr>
<td>Training Facility</td>
<td>Partial practice</td>
<td>Construction for comprehensive emergency training center</td>
</tr>
</tbody>
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# Maritime Safety Policy of Korea

## Focus on Passenger ship

### Improve safety measures

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<tbody>
<tr>
<td><strong>Safety Culture</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>No additional education for students and CEO of shipping lines</td>
<td>Maritime safety leader education for CEO. maritime safety class</td>
</tr>
<tr>
<td>Safety day</td>
<td>No</td>
<td>Designating for maritime safety day (first day of every month)</td>
</tr>
<tr>
<td>Maritime Safety experience centre</td>
<td>Only existence of land transport &amp; firefighting sector</td>
<td>Building up the maritime safety experience centre</td>
</tr>
<tr>
<td>Safety Information</td>
<td>Closed information about maritime accidents and etc</td>
<td>Release of information about maritime accidents</td>
</tr>
</tbody>
</table>
Maritime Safety Policy of Korea

Spread of safety culture

• Focusing on three major maritime safety entities (ships, personnel and marine transportation environment)

• Spread safety awareness and safety culture
  – 90% of marine accidents is caused by human factors
  – Campaigning by Marine Safety Practice HQ

• Increasing marine safety education
  – Training for shipping lines CEOs
  – Open marine safety class
  – Establishing Marine safety experience center
Maritime Safety Policy of Korea

Strengthening of international collaboration

• Increasing cooperation with international organizations such as IMO, IALA, IHO and other many related organizations
  – Strengthening of bilateral and multi-lateral maritime safety collaboration
  – Bilateral meetings with active countries for maritime safety
  – CGPCS and Recapp
  – Active response to strengthening PCS: Collaboration to maintain the Ship Safety 1st Class (White List)

• Strengthening of international collaboration through ODA projects
Conclusion
Policy Directions

• Prevention and just-in-time response to marine accident
  – Revision of law and system
  – Strengthening collaboration in maritime safety
  – Training experts in maritime safety
  – Leading maritime safety International community
  – Industrialization based on convergence technology
  – Strengthening Safety awareness and culture
  – More focus on fishing boat & small ship
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