Demands on Classification Societies

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Prevention First 2004 Symposium
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Long Beach Station Manager
Det Norske Veritas
Introduction

Issues Involving Demands on the Class Societies:

• Environmental Challenges
• ISM and Survey Failures
• Safety, Quality & Environment : Human Factors
Environmental Challenges

...some immediate areas:
• ship scrapping
• TBT free antifoulings
• ballast water

...and some longer term:
• emission trading
Environmental Challenges

- Ship Transportation is generally an Environmental Friendly Means of Transportation
- Highly Dependant on Utilisation and Type of Trade

Environment Performance based on Eco-indicator 99 method expresses damage to Human Health, Ecosystem Quality and Resources

Comparison Study of Paper Transport from Norway to Germany - Road vs RoRo Ship
Environmental Challenges

Ship Life Cycle Emissions -35000 grt Ro-Ro Case

<table>
<thead>
<tr>
<th>Contribution to total</th>
<th>Fossil energy</th>
<th>CO2</th>
<th>NOx</th>
<th>SOx</th>
<th>CO</th>
<th>CxHy</th>
<th>PM</th>
<th>TBT</th>
<th>Solid waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrapping [ton]</td>
<td>282,2</td>
<td>820,0</td>
<td>8,3</td>
<td>4,1</td>
<td>-14,6</td>
<td>3,6</td>
<td>0,7</td>
<td>0,4</td>
<td>124,7</td>
</tr>
<tr>
<td>Maintenance [ton]</td>
<td>259,1</td>
<td>480,0</td>
<td>2,1</td>
<td>3,1</td>
<td>2,8</td>
<td>2,3</td>
<td>0,4</td>
<td>1,4</td>
<td>103,9</td>
</tr>
<tr>
<td>Operation [ton]</td>
<td>24810,0</td>
<td>79500,0</td>
<td>1885,0</td>
<td>498,7</td>
<td>41,1</td>
<td>86,0</td>
<td>62,2</td>
<td>7,3</td>
<td>237,2</td>
</tr>
<tr>
<td>Building [ton]</td>
<td>777,9</td>
<td>1130,0</td>
<td>7,3</td>
<td>8,8</td>
<td>21,3</td>
<td>3,4</td>
<td>1,4</td>
<td>0,1</td>
<td>173,8</td>
</tr>
</tbody>
</table>
Requirement from the Society

Zero Tolerance to Spills
Environmental Challenges

Requirements to Emissions and Discharges are Continuously being Strengthened
## Ship Scrapping

### Existing Ships

**Challenge:**
- To ensure Environmental Friendly Dismantling of Ships - 99% is being Recycled

**Methods:**
- Prepare the Ship for Scrapping
- Self Check
- Independent Inspection and Verification by Class
- Issuance of Inventory List and Statement

### New Ships

**Challenge:**
- Design for Recycling

**Methods:**
- Specification Requirements
- Use Environmental Friendly Materials and Methods
- Document in early Phase
- Issuance of ‘Green Passport’
- Follow Ship as updated Document through Life Cycle

### Who is responsible?

**Environmental Challenges**

- \[\text{Ship Scrapping}\]

- \[\text{Existing Ships}\]
  - **Challenge:** To ensure Environmental Friendly Dismantling of Ships - 99% is being Recycled
  - **Methods:**
    - Prepare the Ship for Scrapping
    - Self Check
    - Independent Inspection and Verification by Class
    - Issuance of Inventory List and Statement

- \[\text{New Ships}\]
  - **Challenge:** Design for Recycling
  - **Methods:**
    - Specification Requirements
    - Use Environmental Friendly Materials and Methods
    - Document in early Phase
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    - Follow Ship as updated Document through Life Cycle

- **Who is responsible?**
## Environmental Challenges

### TBT Free Antifouling

**Background:**
- AFS Convention in Place
- Requirements from 1. January 2003

**Challenge:**
- How to adhere to a New Convention
- Level of Documentation, Control and Inspection

**Most probable outcome of current debate:**
- Limit the involvement to Document Review only

**DNV’s Strategy:**
- Extend to include Survey, Sampling and optional Testing of TBT Content
## Ballast Water

<table>
<thead>
<tr>
<th>Present Situation:</th>
<th>Future Requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No Requirements</td>
<td>• Mandatory Exchange/Treatment Requirements</td>
</tr>
<tr>
<td>• Guideline Implemented in some Regions</td>
<td>• Unified Basic Requirements (Tier 1)</td>
</tr>
<tr>
<td>Challenge:</td>
<td>• Strengthened Requirements in Exposed Regions (Tier 2)</td>
</tr>
<tr>
<td>• Limited Effect due to Many Exemptions</td>
<td>• Exemptions based on Risk Assessment (Tier 0)</td>
</tr>
<tr>
<td>• Different Requirements around the World</td>
<td>Challenges:</td>
</tr>
<tr>
<td></td>
<td>• Long Implementation Phase</td>
</tr>
<tr>
<td></td>
<td>• Still Many Exemptions</td>
</tr>
<tr>
<td></td>
<td>• Technologies Not in Place</td>
</tr>
</tbody>
</table>

Will Society accept the proposed regime?
Will we get local requirements on top of International ones?
## Emission Trading

<table>
<thead>
<tr>
<th>Present Situation:</th>
<th>Future Situation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No Established International Systems</td>
<td>• Well Regulated Market for Land Based Industry</td>
</tr>
<tr>
<td>• No Market Mechanisms in place</td>
<td>• Ship Industry Represents a Potential Trading Partner</td>
</tr>
<tr>
<td>• Several Pilot Initiatives around NO(_x), SO(_x) and CO(_2)</td>
<td></td>
</tr>
</tbody>
</table>

### Challenges:
- Establish Trading Mechanisms
- Establish Ship Baseline/Indexing
- Monitoring and Verification Methods

Class Societies have technical competence and verification experience
Survey failures and ISM system failures

- WHO IS LIABLE?

The responsibility for the ship, its condition, operation and maintenance at any point in time is the responsibility of the Owner.

Class (as other involved parties) is of course professionally responsible for gross negligence and wilful misconduct.
The ISM Code -

- is intended to address the human and management element of ship operations

“ - a complete management philosophy -”

- safety and environmental protection policy
- instructions and procedures to ensure safe operations
- defined levels of authority and communication lines
- reporting accidents and non-conformities
- prepare for and respond to emergency situations
- internal audits and management reviews.
Did Class take on a role that it was comfortable with?
The main problems with the ISM code from a Class point of view:

• Just another auditing scheme
• Class only involved every 2,5 years
• Nearly impossible to fulfil intended role unless also involved with main class and statutory part

DNV strongly believes that Class and ISM involvement must be aligned
ISM and Class Involvement

Why Align ISM and Class?

• Ship audits may take place every 3 years, but surveyors visit the ship much more frequently.
• Separation of the condition of the ships & their equipment from the management is artificial.
• Greater co-operation between surveyors and auditors will increase the value of the services both are providing.
• Management system failures discovered by others (Flag or Port State) will threaten the reputation of Class.
Lower standards when compulsory?

Voluntary regime - e.g. SEP

Compulsory ISM Certificates

Minimum audit standard
The quality of surveys and audits is under continuous focus in DNV:

• Qualification scheme for surveyors
• Monitoring procedures for Surveyors and Surveys
• Experience exchange
• Identification system for possible substandard vessels

The quality of the survey is probably the most critical element in the complete chain
Safety and quality......

- the HUMAN ELEMENT
Safety and quality......

- it is all about:

- Technology
- Organisation
- People
- Operation
70-80% of accidents are caused by human error, and this number has not changed over time.
Human Factors:

Where can Class contribute?

- Training & competence development
- Ergonomics etc.
- Quality & Safety Culture

This is where Class can make the greatest contribution.
Has ISM changed the Safety & Quality Culture?

The “evaders” are just as bad as before

The good are getting better

% owners

Wanted Development

Evasion Culture  Compliance Culture  Safety Culture

Quality

MANAGING RISK
Creating a safety and quality culture within the company is an important element...

• Top level commitment
• Encourage desired behaviour, then desired attitudes will follow
• Walk the talk - role models are important
• Address undesired behaviour directly
• Create peer pressure towards correct behaviour
• Monitor and re-enforce desired behaviour
Building a Safety and Quality Culture

• Building a safety and quality culture in the organisation - it starts with the top

some examples:
• Motivation and attitudes
• Competence development
• Incident reporting and analysis
• Set individual goals on managers - and measure achievement
Concluding remark:

We do not need more rules and regulations, but rather live up to and follow the intentions of those we already have.

“Back to Basics”