

# PSC

## Annual Report 2008

## PREFACE

I'm pleased to publish 2008 PSC Annual Report of Korean Register (KR). This annual report is intended to provide the results of analysis on the detentions and deficiencies of KR-classed vessels in the calendar year 2008, which were imposed by port Authorities of the Tokyo MOU, Paris MOU, USCG and other PSC MOUs. This report also provides a general overview of developments and activities of port State control in each region.

As the port State control has been proven to be an effective measure to eliminate the substandard ships as well as safeguard life, property and the marine environment in the territorial waters falling under their jurisdiction, activities of port State control under various PSC MOUs, including the USCG, have been strengthened significantly in recent years through the implementation of more robust measures.

In this regard, this Society has been endeavoring to reduce the detention rate of our classed ships in each MOU region and USCG by implementing various preventive measures such as PSC pre-inspection services, PSC target matrix point system, pre-Concentrated Inspection Campaign (CIC) prior to the commencement of official CIC program by each MOU, reinforcement of classification inspection, training of surveyors/shipping companies & crew and provision of PSC information of identified PSC deficiencies, etc.

As a result of these activities, KR achieved no class-related detention in USCG, a track record that has continued from the year 2002, and an envious result in the Tokyo MOU and a decrease in the detention ratio in the Paris MOU, which enable this Society to be listed in the high performance level in the Tokyo and Paris MOUs and to have no targeting score in USCG.

We would like to convey our deepest appreciation to you for your kind co-operation on the improvement of your ship's condition, which has resulted in good PSC performance and look forward to your continuous assistance on the PSC matter.

Meanwhile, we hope that this report would be helpful to you in setting up your own countermeasures for improving the PSC records and the safety of your ships at sea. KR will continue to commit ourselves to being your dependable classification society, as always.

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# PSC related Activities of KR

## PSC related Activities of KR in 2008

Port State Control (PSC) is a system of harmonized inspection procedures designed to target sub-standard ships with the main objective being their eventual elimination. Port States are entitled to control foreign ships visiting their own ports ensuring that any deficiencies found are to be rectified within the allowed time frame.

As concerns grow over the environment pollution, various port authorities throughout the world have been carrying out more rigorous port State control inspections against ships entering their territorial water to eliminate the sub-standard ships and to protect the marine environment. The Concentrated Inspection Campaign relating to SOLAS Ch.V: Safety of Navigation was carried out from September to November by the PSC regimes, including the joint effort by Tokyo and Paris MOU in 2008.

The information pertaining to detained ships, as part of information on activities of various MOUs, are made public through the regional MOUs, USCG and AMSA websites. This has led to situations where ships classed to certain classification societies having to undergo more rigorous PSC inspection via targeting system introduced by PSC regimes.

As a result of our rigorous efforts through various preventive measures and active co-operation from the ship owners & other relevant parties, the PSC records of KR-classed vessels have improved considerably in the year 2008. Statistically speaking, 643 vessels classed with this Society were inspected by USCG over the last three years (2006 – 2008) with zero (0) detention, which is the best record amongst classification societies. In addition, the average detention ratio of KR-classed vessels in the Tokyo MOU over the last three years (2006-2008) was 0.17%. This figure also is one of the best records amongst classification societies.

In the Paris MOU, the detention rate has decreased from 0.96% to 0.70% (2006 to 2008). In the year 2008, KR-classed ships incurred zero detention. KR has managed to post a good performance by carefully assessing the detention record for the last three years (2006-2008). As further measures to improve PSC detentions record of our classed vessels, we have introduced PSC detention preventive measures, including PSC pre-inspection system which is carried out from the view point of a PSC inspector and at the request of owners, for the ships trading in the jurisdiction falling within the Paris MOU, USCG and AMSA.

The key measures by KR for PSC detention prevention during the year 2008 were:

1. PSC pre-inspection services  
Hundreds of ships underwent the service at the request of owners in 2008.
2. PSC Target Matrix Point System  
KR classed ships subject to the PSC inspection are to have the PSC Target Matrix Point calculated based on the ship's age, type of ship, flag state and PSC detention record, etc. , which enables the owners to identify ships that are likely to be subjected to PSC detentions.
3. Concentrated Inspection Campaign (CIC)  
Self-checklist prepared by KR, to help prepare for the CIC conducted jointly by the PSC MOUs, was provided to ISM certified companies for circulation to their ships for training of seafarers and for use by KR surveyors on August 2008, prior to the official commencement of the Campaign on 1 September 2008.
4. Enhancement of tool for statutory inspections  
KR-CON, an international award-winning database program of IMO instruments developed in 2001 and upgraded in accordance with the customers' needs which is available via web (<http://krcon.krs.co.kr/krcon>) and the USB memory stick, were used as an effective tool against statutory inspections.
5. Training of surveyors, ship owners and crew members  
PSC seminars for surveyors, shipping companies, superintendants and crew members were held at the KR Head Office, KR Busan Branch Office, and the offices of various shipping companies during 2008.
6. Other PSC detention preventive measures
  - Timely provision of latest PSC information, including PSC deficiencies imposed by port Authorities to ship owners via e-mail or website.

The responsibility for ensuring that ships comply with the provisions of the relevant instruments mainly rests upon the owners, masters, recognized organizations and the flag State administrations. During operation of the ship, due to factors such as weather, accident, human errors or negligence, ships sometimes fail to comply with the applicable instruments and even become unsafe, threatening the lives of seafarers as well as the marine environment. As a classification society, KR will continue to its best to assist KR-classed ships so that they are maintained in a safe condition to prevent any loss of lives, properties and pollution at sea, and to ensure ships profitability through the reduction of unexpected delays caused by PSC detentions.

## Preventive Actions of KR Against PSC detentions

The various measures currently implemented by KR to reduce the PSC detentions are as follows:

### 1. PSC pre-inspection service

- **Identification of ships calling at ports in Paris, USCG and AMSA regimes**
- **Recommendation to undergo a PSC pre-inspection, while providing useful information for the port via e-mail**
- **Undertaking of PSC pre-inspection prior to calling the port in the concerned regimes and at the port as necessary**

- A. During the periodical survey, an attending surveyor identifies the trading area of the ships inspected, liaises with the superintendent, and provides details to prepare for the PSC inspection.
- B. Based on the survey result and ISM implementation condition identified during the survey, a recommendation is made to the ship's owner to undergo the PSC pre-inspection while providing necessary information for the calling port via e-mail at the request of the company.
- C. With consent of the owner, KR conducts a PSC pre-inspection by utilizing the PSC checklist, which incorporates recent PSC deficiencies pointed out by PSC officer, prior to calling in at the port in the concerned regimes and at the port as necessary.

### 2. PSC Target Matrix Point System

- **Quantification of the PSC detention possibility**

- A. KR has developed the PSC Target Matrix Point System which calculates the points based on the ship's age, type of ship, flag state and PSC detention record, etc.
- B. PSC Target Matrix Point System is composed of "genetic and history point," which is calculated based on the PSC detention history and ship's characteristics and "input point", which is calculated based on the data inputted by the attending surveyor, including human factors against PSC inspection.
- C. PSC Target Matrix Point System enables the owners to identify ships that are likely to be subjected to PSC detentions.
- D. A ship with the PSC Target Matrix Point of 80 and over is identified as "High Risk Ship" and this will require the ship to undergo more detailed and stringent survey in the course of the periodical surveys.

### **3. Preparations against Concentrated Inspection Campaign (CIC)**

- **Provision of Checklist for making preparations against CIC**

- A. In order to prepare for the CIC jointly conducted by PSC regimes, KR provides the ship owners with the self-checklist made by KR and carries out the inspection utilizing such checklist during all surveys.

### **4. Reinforcement of classification inspections**

- **Cross-check by ship surveyor and ISM auditor**
- **Development of PSC checklists**
- **Updating of tool for easy access to IMO instruments (KR-CON, Ver 8.0)**

- A. As a measure to prevent PSC detention, the ISM auditor checks the essential items to prevent PSC detention during ISM periodical audit. If there are any technical deficiencies, the findings are reported to the Head Office in accordance with IACS PR 17 and follow-up actions are requested to the ship owner, if necessary.
- B. KR has developed PSC checklists for surveyor and for owner, which are to be completed by KR surveyor during periodical survey and occasional survey pertaining to PSC and by crew on board prior to calling at the port, in order to help the ship owner as well as surveyor to deal with PSC matters. The checklist was developed on the basis of detention and deficiencies items pointed out by PSC officers.
- C. KR-CON, an international award-winning database program of IMO instruments developed by KR and widely used by the industry and Administrations, is provided to KR surveyors for statutory surveys.

### **5. Training of surveyors, ship owners and crew**

- **Visits to survey stations for training of surveyors**
- **Seminars for shipping companies and crew**

- A. Training on the statutory inspections, information on major deficiencies reported from various MOUs, and latest trends and policies of various MOUs or port Authorities are provided to surveyors and ship owners.
- B. Seminars are held for shipping companies and surveyors to promote their understanding on the importance of their role in preventing the PSC detentions and to give more information on the PSC inspections, including the deficiencies recently pointed out.

# Overview of PSC Regimes

## PSC related Developments Worldwide

Under the International Conventions developed and amended by the International Maritime Organization (IMO), the country in whose water the ship is in, which is known as port State, is allowed to exercise a limit of “control” over ships in their water in order to confirm the ships’ compliance with the International Convention.

PSC regimes have been established to secure regional cooperation allowing the member Authorities to share information on the inspections, the ultimate aim of which is to eradicate sub-standard ships in the region. The principle of PSC regimes is outlined in the IMO Res.A.787(19).

In order to achieve the harmonization of port State control inspections, PSC regimes are cooperating with other regimes in the training of port State control officers, the use of combined datasets, etc.

## Co-operation with other regional Port State Control Agreements

The establishment and effective operation of regional co-operation regimes on port State control has led to a formation of worldwide network for the eradication of substandard shipping. Currently, there are a total of nine regional port State control agreements (MOUs) which cover almost all of the world as follows:

- Abuja MOU for West and Central Africa region with 19 members  
(<http://abujamoupsc.org/nigeria/port/psc.html>)
- Black Sea MOU for Black sea region with 6 members  
(<http://www.bsmou.org>)
- Caribbean MOU for Caribbean region with 24 members  
(<http://www.caribbeanmou.org>)
- Indian MOU for Indian Ocean region with 18 members  
(<http://www.iomou.org>)
- Mediterranean MOU for Mediterranean region with 11 members  
(<http://www.medmou.org>)
- Paris MOU for Europe and North Atlantic region with 27 members  
(<http://www.parismou.org>)
- Riyadh MOU for Arab States in the Gulf region with 6 members  
(<http://www.riyadhrou.org>)

- Tokyo MOU for Asia-Pacific region with 18 members  
(<http://www.tokyo-mou.org>)
- Vina del Mar Agreement for Latin American region with 13 members  
(<http://www.acuerdolatino.int.ar>)

As there are concerns that some of these MOUs are dominated by Members who have not made efforts to exercise effective control over their own fleet, technical co-operations is provided to these new MOUs.

The Global Integrated Shipping Information System (GISIS), which was launched by IMO in 2005, includes the PSC module for data exchange between IMO and information centers of PSC regimes. The system enables IMO to be in a better position to assist and promote PSC activities worldwide.

### **Concentrated Inspection Campaign (CIC)**

CIC on lifesaving arrangements is scheduled to be conducted by PSC regimes in 2009 for the purpose of increasing the awareness of lifeboat related safety issues and to gather information on their maintenance. The CIC on damage stability of tankers is expected 2010 and in 2011, the CIC on structural safety and the International convention on Load Lines is scheduled.

**For the updated information on new amendments to International Conventions by IMO, please check “Technical Updates – Technical Support” of the KR homepage.**

## Overview of the Tokyo MOU

With the rise in the tonnage of aged ships and insufficient supply of qualified seafarers recently, the number of detentions during the last two years has increased, putting the pressure on the efforts to eradicate substandard ships.

In 2008, 22,149 inspections, involving 12,622 individual ships, were carried out on board ships registered under 105 flags. The number of inspections increased by 110, which translates to about 0.9% increase in percentage, compared to the figure of 2007. Out of 22,149 inspections, 15,297 inspections identified ships with deficiencies. The total number of individual ships operating in the region was estimated to be 19,947, making the inspection rate in the region to be approximately 63%.

In 2008, 1,530 ships registered under 68 flags were detained because of serious deficiencies found on board. The detention rate of ships inspected was 6.91%. In comparison with the figure posted in 2007, the number of detentions increased by 292 (19%).

A total of 89,477 deficiencies were recorded in 2008, and life-saving appliances and fire safety measures remained as two major categories of deficiencies, representing 29% of the total number of deficiencies.

### Concentrated Inspection Campaign (CIC)

For the purpose of verifying that navigation equipment carried on board vessels are in compliance with the carriage requirements and appropriately certified with relevant record and that master and watchkeeping officers are familiar with operation of the equipment, the Tokyo MOU carried out a concentrated inspection campaign (CIC) on safety of navigation (SOLAS Chapter V) from 1 September to 30 November 2008. The campaign was conducted jointly with the Paris MOU with the participation by other regional PSC regimes. During the CIC, the member Authorities inspected a total of 4,836 ships and 31 ships were detained.

The most notable deficiencies found were the lack of adequate charts and publications (1,183: 54.44%), other navigational deficiencies (167: 7.69%) and deficiencies relating to voyage data recorder (VDR) (170; 7.82%). The CIC detention rate was about 0.64%, much lower than the overall detention rate of 4.07% posted during the same period.

### Asia-Pacific Computerized Information System (APCIS)

The Asia-Pacific Computerized Information System (APCIS), established for reporting and storing port State inspection results and facilitating exchange of information in the region, was hyperlinked with the database of SIRENAC of the Paris MoU, BSIS of the Black Sea MoU and IOIS of the Indian Ocean MoU for inter-regional information exchange.

## Targeting System

As a useful tool to assist PSC officers in selecting a ship for inspection, an automatic ship targeting calculation system was adopted and implemented by the Tokyo MOU. The ship targeting factors are calculated every day based on the ship's age, ship type, flag, classification society, and inspection histories. The ships with higher values of targeting factors are given higher priority for inspection.

Furthermore, in response to the request by the industry and for the purpose of providing more transparent information on its PSC activities, Tokyo MOU has been publishing the ship targeting factors for a specific ship on the official MOU web site since 1 October 2006.

The targeting system adopted by the Tokyo MOU Committee is shown hereunder:

### 1. Ship Targeting System

Element	Target Factor Value (TFV)
<b>Ship Age</b>	0-5 years: 0 point 6-10 years: 5 points 11-15 years: 10 points 16-20 years: 10 +1 point for each year exceeding 15 years >20 years: 15 +2 points for each year exceeding 20 years
<b>Ship type</b>	4 points for ships with type codes 13,30,40,55,60,61,70,71 and of 15 years of age and over 0 points for all others
<b>Ship flag</b> - Excess of average detention based upon 3 year rolling average figure	+1 for each percentage point in excess (decimal number rounded up)
<b>Deficiencies</b>	0.6 points for each deficiency found in last 4 initial inspections or follow-up inspections with new deficiency (decimal number rounded up)
<b>Detentions</b>	Depending on number of detections during the last 4 initial inspections or follow-up inspections with new deficiencies: 1 detention – 15 points 2 detentions – 30 points 3 detentions – 60 points 4 detentions – 100 points
<b>Outstanding deficiencies</b> (A deficiency recorded in the APCIS in the last initial inspections or associated follow-up ones and not marked as rectified (Code 10))	2 points for each outstanding deficiency

<b>Time since last initial inspections:</b>	
6-12 months	3 points
12-24 months	6 points
Over 24 months or never inspected in TMOU region (including new ships)	50 points
<b>Classification Society – non IACS</b>	10 points

2. Calculation method

The target factor is the sum of the Target Factor Values (TFV). Target Factors are re-calculated by APCIS daily.

3. Priority levels

It would be up to each administration to decide how they would use the target factor and what significance they place upon the value. It may be of value to PSCOs if some guidance is provided as to what target factor indicates a ship should be a priority for inspection.

For example:

Target Factor Value	Priority Level
> 100	Priority 1 (very high)
41 – 100	Priority 2 (high)
11 - 40	Priority 3 (medium)
0-10	Priority 4 (low)

## Members

Maritime Authorities Members (18 Countries): Australia, Canada, Chile, China, Fiji, Hong Kong (China), Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Papua New Guinea, the Philippines, the Russian Federation, Singapore, Thailand, Vanuatu, Vietnam.

## Observers

Democratic People's Republic of Korea, Macao (China), Solomon Islands, USCG, IMO, ILO, Paris MOU, Viña del Mar Agreement, Indian Ocean MOU, Black Sea MOU

**Visit the Tokyo MoU homepage (<http://www.tokyo-mou.org>) for more information.**

## Overview of the Paris MOU

The average detention rate appears to have stabilized over the past four years at around 5 %. As a serious matter, in 1 out of every 20 inspections, a ship is not allowed to proceed to sea. Another statistic which is of a great concern is an increasing trend in the number of deficiencies between 2005 and 2008 – i.e., nearly 60 % of inspections have resulted in 6 deficiencies on average and 458 inspections have revealed more than 20 deficiencies in 2008.

During 2008, 24,647 inspections were carried out in the Paris MOU region against 15,237 individual ships. The number of inspections increased by 7.74% compared to the figures of 2007. Each ship was inspected an average of 1.5 times per year.

One or more deficiencies were found in 58% of inspections, a significant increase from the figure of 56.4% in 2007. The average number of deficiencies per inspection also increased from 3.27 in 2007 to 3.4 in 2008.

The number of ships detained in 2008 for deficiencies clearly hazardous to safety, health or the environment amounted to 1,220. The average detention percentage for all inspections in 2008 was 4.95%. The number of inspections against the number of ships calling in Member's ports increased from 30.3% in 2007 to 31.59% in 2008.

Since 1999, Paris MOU has been publishing details of the responsibility of Recognized Organizations (RO) for detainable deficiencies. Out of 1,220 detentions recorded in 2008, 174 or 14.26% were considered RO related which is an increase from the 12.3% of the previous year.

For the year 2008, the Secretariat received 9 requests for review. The Review Panel, composed of representatives of four different MoU Authorities, concluded that three (3) cases are to be reconsidered while four (4) cases are not. Two (2) cases were re-considered by the port State prior to the panels review.

### **New Inspection Regime (NIR)**

The New Inspection Regime (NIR) project of the Paris MoU is approaching its final stage of development with the political support from Europe.

The NIR will be accompanied by a new inspection system, THETIS, which will replace the existing Sirenac Database. A new element in Thetis will be the recording of Port call information. Port call information is important for the planning of inspections and resources by the Member States.

Ship Risk Profile Scheme

				Profile			
				High Risk Ships (HRS)		Standard Risk Ship (SRS)	Low Risk Ship (LRS)
Generic Parameters				Criteria	Weighting points	Criteria	Criteria
1	Type of ship			Chemical tankship Gas Carrier Oil tankship Bulk carrier Passenger ship	2	Neither a high risk nor a low risk ship	All types
2	Age of ship			All types < 12y	1		All ages
3a	Flag	BGW-list		Black – VHR, HR, M to HR	2		White
				Black - MR	1		
3b			IMO Audit	-	-		Yes
4a	Recognized Organisation	Performance	H	-	-		High
			M	-	-		-
			L	Low	1		-
			VL	Very Low			-
4b			EU recognised	-	-		Yes
5	Company	Performance	H	-	-	High	
			M	-	-	-	
			L	Low	2	-	
			VL	Very Low		-	
<b>Historic Parameters</b>							
6	Number of def. Recorded in each inspection Within previous 36 months	Deficiencies	Not eligible		-	= 5	
7	Number of Detention Within previous 36 months	Detentions	= 2 detentions		1	No detention	

The targeting of ships is based on a Ship Risk Profile. By using this profile, ships are categorised as high, standard or low risk ships.

- High Risk Ships (HRS) will be subject to an inspection interval of 6 months
- Standard Risk Ships (SRS) will be rewarded with an inspection range between 10 to 12 months
- Low Risk Ships (LRS) will be rewarded with 24 to 36 months inspection interval

Banning measures will be extended to all ship types and apply to flags on the “Black List” and “Grey List”. This should have an effect on a large number of ships, which manage to continue trading in the area after multiple detentions. They will no longer be welcome in the Paris MoU ports after 1 January 2011.

For more information including Ship Risk Calculator and Company Performance Calculator, Visit Paris MoU homepage (<http://www.parismou.org>)

### **Mandatory Expanded Inspection (MEI)**

Following the Erika and Prestige disasters, the EU introduced a new legislation through the EU Directive 2001/106/EC, which amended the Port State Control Directive 95/21/EC of 19 June 1995. The directive came into force on 22 July 2003. The directive introduced the concept of Mandatory Expanded Inspection (MEI) on “high risk” ships.

Consequently, following vessels must undergo a Mandatory Expanded Inspection (MEI) every 12 months by Paris MOU. And the operator or master of a ship to which following applies shall communicate all the information listed in 2001/106/EC to the competent authority of the EU member State of each port visited after a period of 12 months from the time of last expanded inspection at least three days before the expected time of arrival in the port or before leaving the previous port if the voyage is expected to take fewer than three days.

- 1) Gas and chemical tankers older than 10 years of age
- 2) Bulk carriers older than 12 years of age
- 3) Oil tankers with a gross tonnage of more than 3,000 and more than 15 years of age
- 4) Passenger ships over 15 years old other than passenger ships that come under the EU ferry Directive

## Concentrated Inspection Campaign (CIC)

From 1 September to 30 November 2008, a total of 6,331 inspections were carried out against 5,470 ships. A matter of serious concern was that 1 out of 5 inspections showed navigation deficiencies, corresponding to 1,872 inspections with 81 inspections (1.39%) resulting in detention.

In 2009, the CIC on lifeboat launching arrangements, including the testing and maintenance of “on-load” release mechanism for lifeboats and rescue boats and the CIC on the awareness of the crew of the dangers of launching and recovering lifeboats will be carried out jointly with Tokyo MOU.

The CIC on damage stability of tankers for 2010 and the CIC on the structural safety and the International convention on Load Lines for 2011 were agreed by the Paris MoU PSC Committee.

## Target factor

The target factor in use within the Paris MOU is used as a tool for selecting ships eligible for an inspection only.

The target factor is in two parts:

**Generic Factor** - based on elements of the ships profile.

**History Factor** - based on the ships inspection history in the Paris MOU.

**Generic Factor:** The Generic Factor for an individual ship is calculated by adding together the applicable elements of its profile according to the element described in the as following table:

ELEMENTS	VALUE
<b>Target Flag</b>	
Medium risk - (yardstick + 3%)	+4
Medium to High risk - (yardstick + 6%)	+8
High risk - (yardstick + 9%)	+14
Very High risk - (yardstick +12%)	+20
A flag whose number of detentions in the last three years exceeds its allowable limit based on a fixed yardstick (7%). Graduated by increasing yardstick in steps of 3%. For example “medium to high risk” means detentions exceeded allowable limit using a yardstick of 10%.	
<b>Targeted ship type</b> (i.e. liable to expanded inspection)	+5

<ul style="list-style-type: none"> <li>i. Bulk carrier more than 12 years old.</li> <li>ii. Gas Carrier more than 10 years old.</li> <li>iii. Chemical Tanker more than 10 years old.</li> <li>iv. Oil tanker GT&gt;3,000 and more than 15 years old.</li> <li>v. Passenger ship/ ro-ro ferry more than 15 years old.</li> </ul>	
<b>Non- EU recognised class society</b>	+3
A class society not appearing on the list of recognised societies published by EC Commission. If no class is recorded in database (other than withdrawal/ suspension of class for safety reasons) the ship will be assumed to be classed with a EU recognised class society.	
<b>Ships more than 12 years old</b>	
> 25 years 21-24 13-20	+3 +2 +1
Graduated for non-targeted ship types and passenger ships	
<b>Flag State has not ratified all conventions</b>	+1
Flag states who have not ratified all main conventions.	
<b>Targeted Class</b>	
≤ 0% 0% - 2% >2% - 4% >4%	0 +1 +2 +3
Class with 3-year average record of detentions above the average class detention value using the excess of average rate as yardstick. A classification society whose number of detentions with class related deficiencies in the last three years exceed the average class detention rate.	

The Generic Factor is updated when the particulars of the ship change or the status of its existing flag or class change.

### History Factor

The History Factor is applied to the Generic Factor to reflect the actual condition of the ship found by inspection.

The History Factor is calculated by applying the elements of the following table to each Paris MOU inspection of the ship carried out in the previous 12 months.

ELEMENTS	TARGET VALUE
<b>Entering a region port for the first time in the last 12 months</b>	+20
No inspection recorded in the database in the last 12 months.	

ELEMENTS	TARGET VALUE
<b>Not inspected in last 6 months</b>	+10
No inspection recorded in the database in the last 6 months.	
<b>Detained</b>	+15
<b>Number of deficiencies</b>	
0	-15
1 to 5	0
6 to 10	+5
11 to 20	+10
21+	+15
<b>Outstanding deficiencies from last inspection</b>	
For each listed action taken “rectify deficiency at next port” (code 15) or “master instructed to rectify deficiency before departure” (code 17) and for every two listed action taken “rectify deficiency within 14 days” (code 16) and/or “other –specify in clear text” (code 99)	+1
In case “all deficiencies rectified” is noted on the report (code 10)	-2
The value for the outstanding deficiencies is applied only in respect of the latest inspection.	

The Overall Target Factor is calculated by adding the Generic and History Factor but cannot be less than the Generic Factor.

Target Factors are re-calculated at the end of each day.

## **Members**

Maritime Authorities Members (27 Countries): Belgium, Bulgaria (1 July 2007), Canada, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany (Federal Republic of), Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Romania (1 July 2007), Russian Federation, Slovenia, Spain, Sweden, UK.

**Visit the Paris MoU homepage (<http://www.parismou.org>) for more information.**

## Overview of the USCG

In 2008, a total of 8,661 individual vessels, from 86 different Flag Administrations, made 82,103 port calls to the United States. The Coast Guard conducted 11,578 SOLAS safety exams and 9,489 ISPS exams on these vessels. The total number of ships detained in 2008 for safety related deficiencies increased from 152 to 176. The total number of ships detained in 2008 for security related deficiencies decreased from 42 to 27. At the same time, the number of distinct arrivals from 2007 to 2008 increased from 8,281 to 8,661.

Flag Administration safety performance for 2008 decreased from the previous year, with the annual detention rate increasing from 1.82% to 2.03%. And for the first time since 1995, the 3-year rolling detention rate rose from 1.60% to 1.75%.

Flag Administration security performance for 2008 was at its highest compliance rate ever, with the annual Control Action Ratio (CAR) decreasing from 0.51% to 0.31%. The Rolling Average CAR dropped from 0.53% to 0.41% for performance from January 1, 2006 to December 31, 2008.

Classification society related detentions increased from 10 in 2006, 12 in 2007 and 14 in 2008 this year.

### **QUALSHIP 21**

For providing incentives such as diminishing the time interval of onboard inspection to the well run and quality ships, the USCG implemented an initiative the QUALSHIP 21 on 1 January 2001. One of the eligibility requirements for a vessel to be enrolled into the program is for the vessels' flag State to also be qualified as a QUALSHIP 21 flag State. They must have at least 10 distinct U.S. arrivals a year and have a three-year average detention ratio of 1.0% or less to qualify for the program and to be recognized. For this, the flag State has to demonstrate the highest commitment to ensure the safety and quality of their vessels. At the end of 2008, a total of 487 vessels had enrolled in this program and the number of qualifying registries has decreased to twenty.

#### Qualifying Registries for 2009

Barbados, Belize, Bermuda, Bulgaria, China, Denmark, France, Germany, Greece, Hong Kong, India, Japan, Malaysia, Marshall Islands, Netherlands Antilles, Norway, Portugal, Sweden, Switzerland, United Kingdom,

## Targeting Matrix

For a decision as to whether PSC officer should board the foreign ship entering their ports, the USCG rationally and systematically determine the probable risk posed by non-U.S. ships calling at U.S. ports, which is calculated on the basis of ship managers, classification societies, flag states, vessel history & security compliance history and ship particulars & port of call history in Safety Targeting Matrix and Security Targeting Matrix respectively.

The Safety Targeting Matrix was modified to better target those vessels that posed the most risk to U.S. ports, in accordance with a thorough trend analysis of detentions and deficiencies of the vessel. The Matrix was implemented in June 2007.

### 1) Marine Safety Appendices

#### Port Control Boarding Priority Matrix

##### ➤ Targeting Criteria

1. Ship Management
  - ◆ 5 Points: Ship owners, operators or charterer with more than two detentions within past twelve months.
2. Flag State - over the previous three years
  - ◆ 7 Points: detention ratio 2 or more times the overall average for all flag States.
  - ◆ 2 Points: detention ratio between the overall average and up to 2 times the overall average for all flag States.
3. Recognized Organization (classification society) - over the previous three years
  - ◆ Priority I: A detention ratio equal to or greater than 2%
  - ◆ 5 Points: A detention ratio less than 2% but greater than or equal to 1%
  - ◆ 3 Points: A detention ratio less than 1% but greater than 0.5%
  - ◆ No Points: A detention ratio less than 0.5%
4. Vessel History
  - ◆ Priority II: First time to US or no PSC exam in the previous 12 months
  - ◆ 5 Points Each: Detention, denial of entry, or expulsion within the past 12 months
  - ◆ 1 Points Each: COTP (Captain of the Port) restricted the operations of the vessel for safety related issues within the past 12 months
  - ◆ 1 Point Each: Reportable marine casualty in the previous 12 months
  - ◆ 1 Point Each: Marine violation in the previous 12 months

5. Ship Particulars (For QUALSHIP 21 vessels only; points should not be added in this column, but points can be subtracted for age)
  - ◆ 4 Points: General Cargo Ship, Ro-Ro Cargo Ship, Vehicle Carrier, Passenger Ship involved in “day trips” or ferry service
  - ◆ 2 Points: Bulk Carrier, Refrigerated Cargo Ship
  - ◆ 1 Point: Oil or Chemical Tanker
  - ◆ Ship Age (Add or subtract points)
    - 0-4 years: subtract 3
    - 5-9 years: subtract 2
    - 10-14 years: add 0
    - 15-19 years: add 3
    - 20-24 years: add 5
    - Over 25 years: add 7

➤ **Matrix Instructions**

1. Priority (P)I vessels:

Port entry may be restricted until the Coast Guard examines the vessel

- ◆ 17 or more points on the Matrix, or
- ◆ Ships involved in a marine casualty that may have affected seaworthiness, or
- ◆ USCG Captain of the Port (COTP) determines a vessel to be a potential hazard to the port or the environment, or
- ◆ Ships whose Recognized Organization (classification society) has a detention ratio equal to or greater than 2%

2. Priority (P)II vessels:

Cargo operations or passenger embarkation/debarkation may only be restricted by decision of the Sector Commander/ COTP.

- ◆ 7 to 16 points on the Matrix, or
- ◆ Outstanding requirements from a previous examination in this or another U.S. port that require clearing, or
- ◆ Not being examined within the past 12 months per vessel history paragraph

3. Non-Priority Vessel (NPV):

The Coast Guard may select and examine vessel using the PSC random selection process for following vessels.

- ◆ 6 points or fewer points on the Matrix,

- ◆ Vessel poses a low safety and environmental risk.

If a vessel has scored either a PI or PII based on points or association, and has had a USCG PSC examination within the past 6 months with no serious deficiencies, the Sector Commander may be downgraded to a Non-Priority Vessel. If the Sector Commander downgrades a vessel, the vessel will be added to the pool of random examination.

### **Recognized Organizations Filtering Guidelines for Safety**

The following guidelines are used to determine if a vessel detention relates to the Recognized Organization conducting the statutory activities:

- 1) If the vessel was detained within 90 days of an applicable survey (or, initial, intermediate, periodic or renewal verification for ISM) performed by a Recognized Organization, the following detainable deficiencies or ISM Code non-conformities will be considered RO-related:
  - Serious deficiencies relating to safety equipment or arrangement (e.g., missing or improperly maintained equipment)
  - Serious wastage or structural deficiencies
  - Lack of effective and systematic implementation of a requirement of the ISM Code.
- 2) The following detainable deficiencies will be considered RO-related regardless of the elapsed time from the last applicable survey:
  - Equipment outdated or not serviced at the time of the last survey (e.g., expired flares, not serviced fire extinguishing systems)
  - Long standing, serious wastage or structural deficiencies

### **Appeal Guidelines for Safety & Security Related Detentions**

All major control actions (those not RO-related) should be appealed first to the cognizant Captain of Port (COTP) or officer in Charge of Marine Inspection (OCMI) who issued the detention. If not satisfied with a COTP/OCMI decision on the appeal, a reconsideration of the appeal may be forwarded to the District Commander. If still not satisfied, final consideration of the appeal can be forwarded to the Commandant of the Coast Guard.

## 2) Marine Security Appendices

### ISPS Boarding Priority Matrix

#### ➤ Targeting Criteria

##### 1. Ship Management (owner, operator or charterer)

- ◆ ISPS II: Owner, if new owner since last ISPS exam
- ◆ 5 Points: Owner, operator, or charterer associated with one ISPS-related denial of entry or ISPS related expulsion from port in past 12 months, or two or more ISPS/MTSA\* control action in twelve month period

*\* MTSA: Maritime Transportation Security Act of 2002*

##### 2. Flag State

- ◆ ISPS II: If new flag since last ISPS exam
- ◆ 7 Points: SOLAS Vessels\*, A CAR 2 or more times the overall CAR average for all flag States
- ◆ 2 Points: SOLAS Vessels\*, A CAR between the overall CAR average and up to 2 times overall CAR average for all flag States
- ◆ 7 Points: Non-SOLAS vessels\*\*, CAR 2 or more times the overall CAR average for all flag States

*\* SOLAS Vessels: pertains solely to flag States with more than one major control action\*\*\* in a 12 months period*

*\*\* Non-SOLAS Vessels: SOLAS Vessels and includes vessels from non-SOLAS signatory countries and non-SOLAS vessels from signatory countries*

*\*\*\* Major control action: A control measure (detention, denial of entry, or expulsion) imposed by the U.S. upon a foreign vessel when clear grounds exist indicating that a ship is not in compliance with the requirements of SOLAS Chapter XI, or part A of the ISPS Code.*

##### 3. Recognized Security Organization

- ◆ ISPS I: 3 or more RSO related major control actions in the past twelve months
- ◆ 5 Points: 2 RSO related major control actions in the past twelve months
- ◆ 2 Points: 1 RSO related major control actions in the past twelve months

#### 4. Security Compliance History

- ◆ ISPS I: Vessel with an ISPS-related denial of entry/expulsion from port in past 12 months\*
- ◆ ISPS II: If matrix score does not result with ISPS I priority & no ISPS compliance exam within the past 12 months
- ◆ 5 Points: Vessel with an ISPS/MTSA related detention in the past twelve months
- ◆ 2 Points: Vessel with 1 or more other ISPS/MTSA control actions in the past twelve months\*\*

\* *COTP or OCMI may downgrade a vessel's priority from ISPS I to ISPS II, or ISPS II to ISPS III depending on circumstances surrounding a denial of entry. If denial of entry is solely from failure to provide a Notice of Arrival prior to entry into the U.S., assign 2 points.*

\*\* *Includes vessel delays, restriction of operations, and restriction of movement related to vessel security deficiencies. Does not include routine examination of the ship or lesser administrative actions.*

#### 5. Port of Call History

- ◆ ISPS I: Vessels having called upon, in their last 5 ports of call, ports listed in the Federal Register as not compliant with the ISPS code. Also refer to CG-543 monthly targeting update.
- ◆ ISPS II: If matrix score does not result in ISPS I priority above and if the port or country is designated ISPS II per the CG-543 monthly targeting update.
- ◆ Conditions of entry prior to entering U.S: For last 5 ports, list of countries and/or port facilities, as specified by federal Register, found without effective anti-terrorism measures.

#### ➤ **Matrix Instructions**

1. Vessels that score 17 points or higher are ISPS I vessels examined at sea prior to entering port.
2. Vessels that score between 7-16 points are ISPS II vessels that are examined in port.
3. Vessels scoring fewer than 7 points are ISPS III vessels usually not subject to examination unless selected randomly.
  - Control Action Ratio (CAR) is defined below for the purpose of flag state targeting for compliance. The # of major ISPS-related control actions include all security-related denials of entry or expulsions from port and ISPS-related detentions to vessels flying the flag of that State within the period of interest.

$$\text{CAR} = \frac{\text{\# of major ISPS-related control actions} \times 100}{\text{\# District vessel arrivals}}$$

**Recognized Security Organization Filtering Guidelines for Security**

The following guidelines are used to determine if a major control action is RSO related:

- 1) The following deficiencies will be considered RSO-related if a vessel is subject to a major control action within 90 days of an applicable survey performed by an RSO
  - a. Serious deficiencies relating to security equipment or arrangement (e.g., missing or improperly maintained equipment)
  - b. Lack of effective and systematic implementation of a requirement of the Ship Security Plan.
  - c. Ineffective Ship Security Plan approved by the RSO
  - d. SSO/Master not competent in security duties (only if these specific individuals participated in the verification survey)
  
- 2) The following deficiencies which would lead to major control action will be considered RSO-related regardless of the elapsed time from the last applicable survey:
  - a. Long standing, serious deficiencies relating to security (e.g. records, audits, training)
  - b. Improper interim ISSC

## Overview of the AMSA

In 2008, a total number of port visits by ships subject to PSC inspection rose by 7.6 per cent to 22,922 and the total gross tonnage of those ships grew by 18.6 per cent to 898 million tons. And there were 2,795 initial PSC inspections at 56 Australian ports with 225 of those leading to the detention of a vessel. The detention rate increased to 8.1 per cent in comparison to the rate of 5.4 per cent noted in 2007.

### AMSA's Ship Inspection Database

To assist AMSA Marine Surveyors in conducting PSC inspections, AMSA has developed a comprehensive database, referred to as 'Shipsys' that contains information received from various sources on a large number of vessels, such as the general particulars of a vessel, and their PSC inspection history from within the Tokyo MOU region. The Shipsys data is used to calculate a numerical "risk factor" for ships arriving in Australian ports, which is ultimately designed to be a guide to AMSA Marine Surveyors to target ships appropriately and to allocate appropriate resources in the most efficient and effective manner.

### PSC Inspection Rate Targets

Since 1 July 2007, AMSA adopted revised inspection rate targets that became based entirely on a calculated "risk factor" for each ship. The new "risk factor" is a numerical calculation of the probability of each arriving ship's likelihood of detention, which takes into account a number of criteria and, based on this, ships are grouped into "priority" groups with each group having a specific desired inspection rate. Ships become "eligible" for inspection every 6 months, with a target inspection rate, based on the following criteria:

1. Single Hull Tankers (SH) – three monthly and inspection target is 100%.
2. Passenger ships are Priority 1 and are eligible every 6 months.
3. Priority 1 (P1) – Risk Factor more than 5 – Inspection target is 80 %.
4. Priority 2 (P2) – Risk Factor more than 4 or 5 – Inspection target is 60 %.
5. Priority 3 (P3) – Risk Factor more than 2 or 3 – Inspection target is 40 %.
6. Priority 4 (P4) – Risk Factor more than 0 or 1 – Inspection target is 20 %.

## **Risk Factor Calculation**

There is a different formula for bulk carriers and other ships, and the individual elements of the formula are updated nightly.

### **For Bulk Carriers**

=100 \* EXP(-4 + ship age + time since previous inspection + (0.587 \* coefficient if new) + (0.4536 \* LN(1 + number of deficiencies at previous inspection)) + (0.354 \* 1, if not inspected previously) + (-0.2212 \* LN(Gross tonnage)) + Flag State coefficient) / (1 + EXP(-4 + ship age + time since previous inspection + (0.587 \* coefficient if new) + (0.4536 \* LN(1 + number of deficiencies at previous inspection)) + (0.354 \* 1, if not inspected previously) + (-0.2212 \* LN(Gross tonnage)) + Flag State coefficient))

### **For Other Ship Types**

=100 \* EXP(-3.07 + ship age + time since previous inspection + (0.00958 \* time since last special survey) + (0.086 \* coefficient if new) + (0.326 \* LN(1 + number of deficiencies at previous inspection)) + (0.444 \* coefficient if not previously inspected) + (-0.2054 \* LN(gross tonnage)) + ship type coefficient + Flag State coefficient + RO coefficient) / (1 + EXP(-3.07 + ship age + time since previous inspection + (0.00958 \* time since last special survey) + (0.086 \* coefficient if new) + (0.326 \* LN(1 + number of deficiencies at previous inspection)) + (0.444 \* coefficient if not previously inspected) + (-0.2054 \* LN(gross tonnage)) + ship type coefficient + Flag State coefficient + RO coefficient))

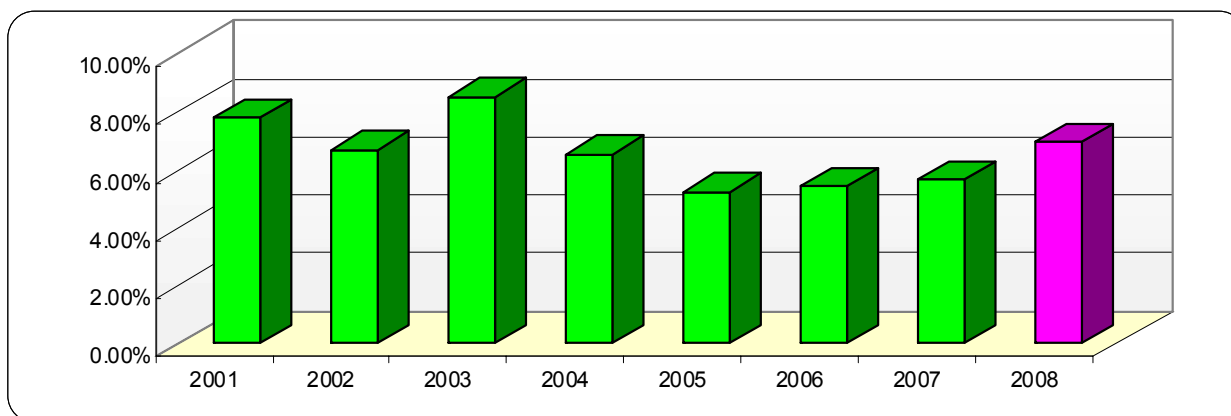
LN = natural logarithms. EXP = exponential.

# Statistical Analysis of PSC Inspections

## Statistical Data by PSC regime

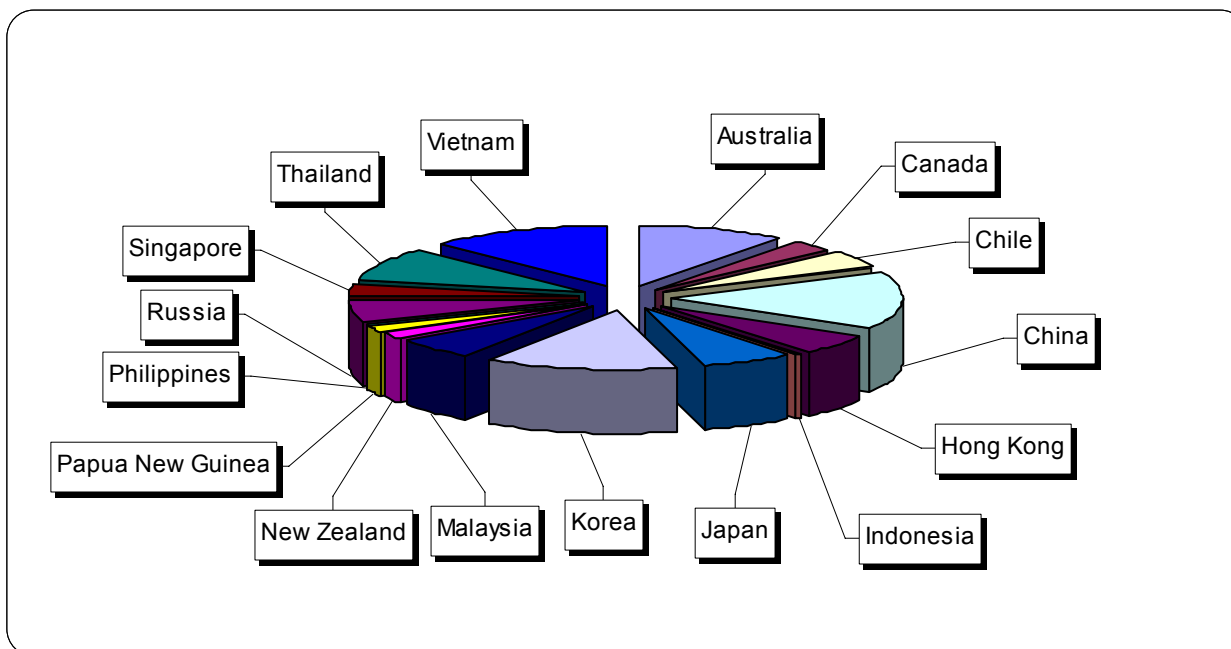
### Statistical Data of the Tokyo MOU

Fig.1 Detention rate by year



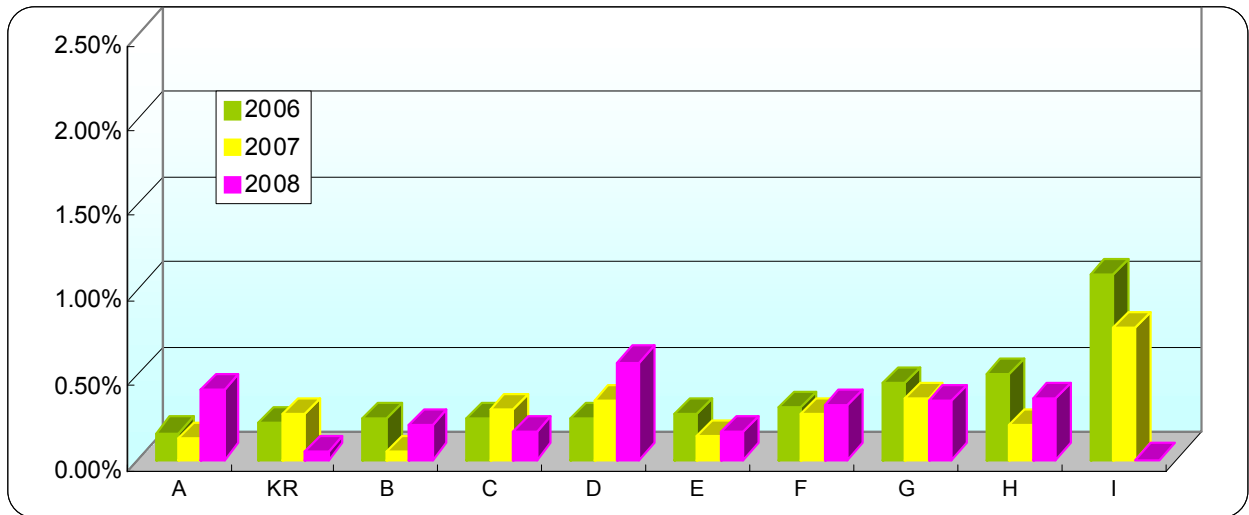
During 2008, 22,149 inspections were carried out for ships registered with 105 flag States. Out of these, 1,530 ships registered in 68 flag States were detained.

Fig. 2 Detention rate by member state of Tokyo MOU



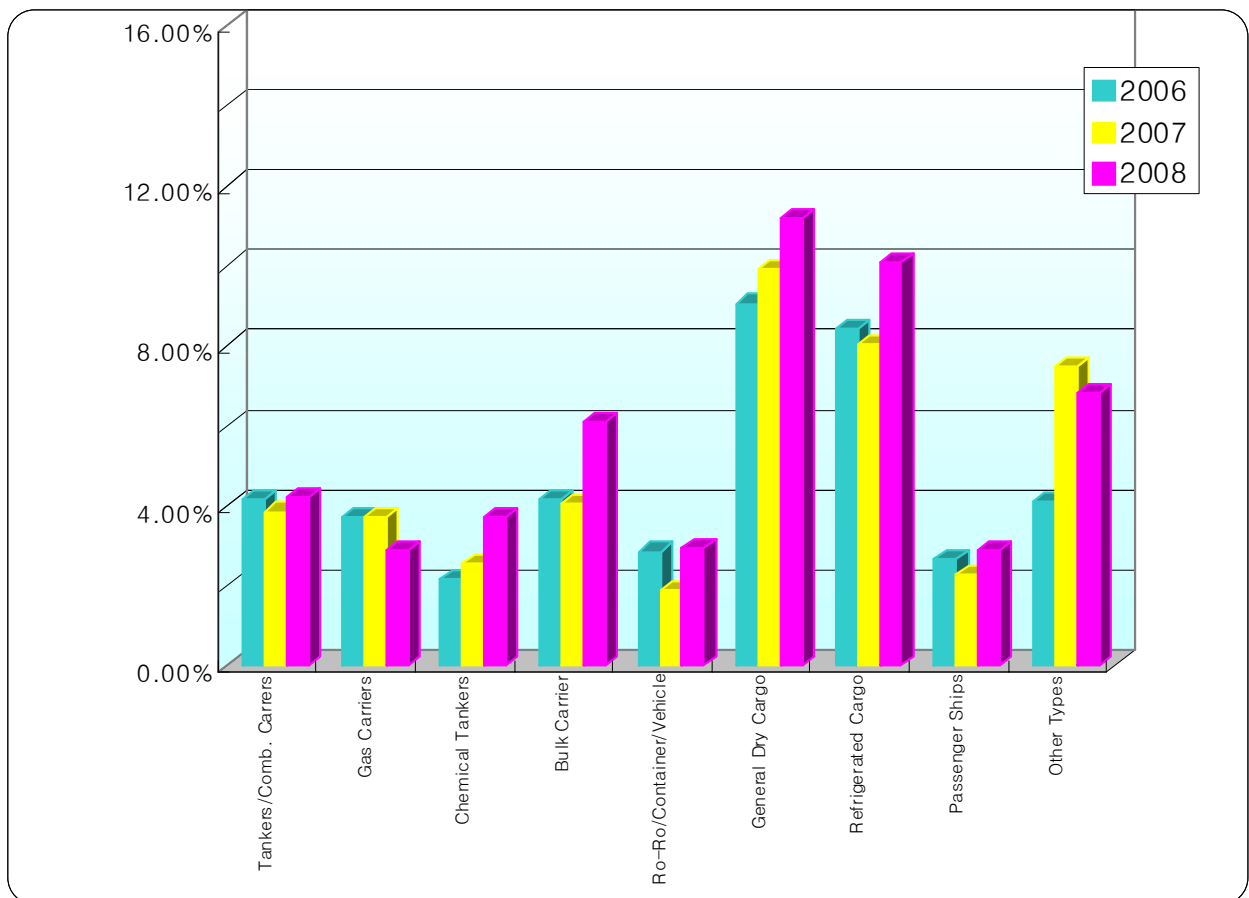
The detention rate in China was the highest (12.17%). As for the number of detentions, the number imposed by China (553), Japan (243) and Republic of Korea (241) were higher than the ones imposed by other member states.

Fig. 3 Class-related detention rate by IACS member



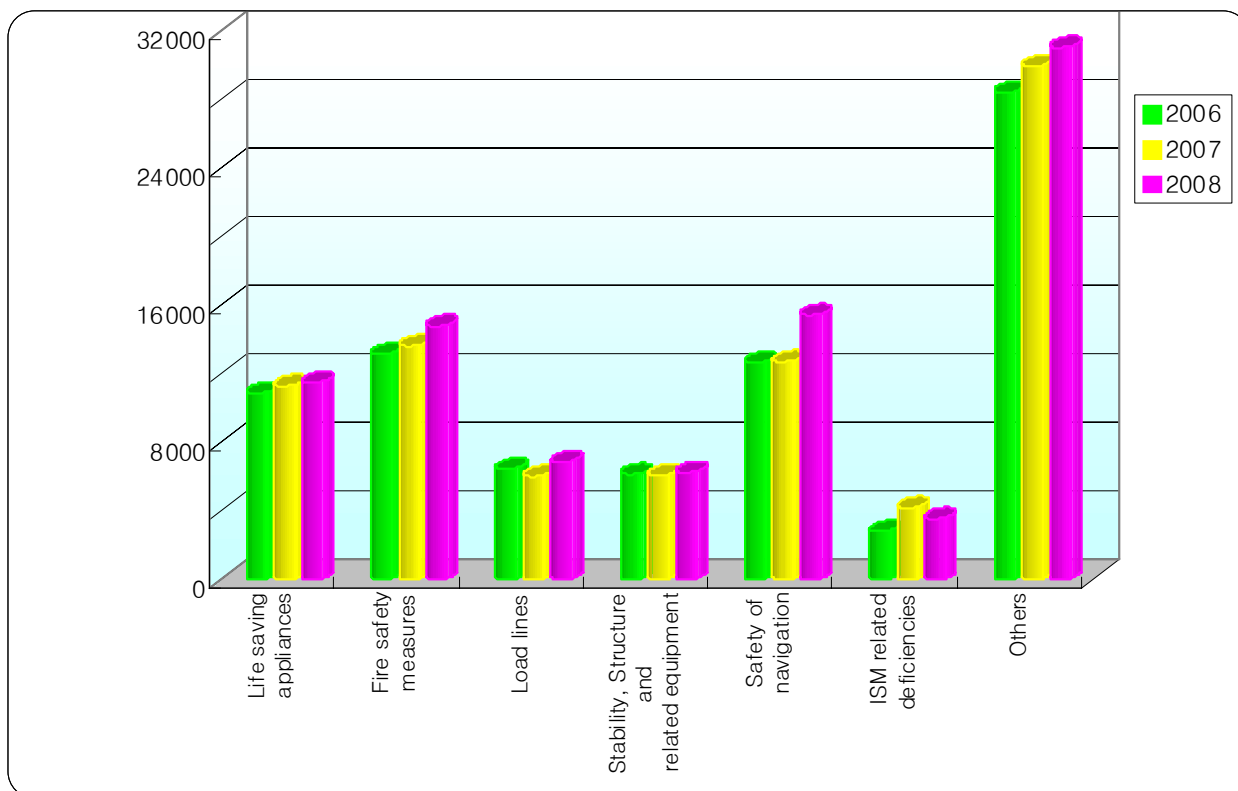
In 2008, 1,954 inspections were carried out against KR-classed ships. The number of class-related detention for KR-classed ships was 1, which in terms of percentage translates to 0.05%.

Fig. 4 Detention rate by ship type



In looking at overall detention rates in 2008, the rate for general dry cargo ships was the highest along with the one for refrigerated cargo ships followed by other types and bulk carriers.

Fig. 5 Number of deficiencies by main category



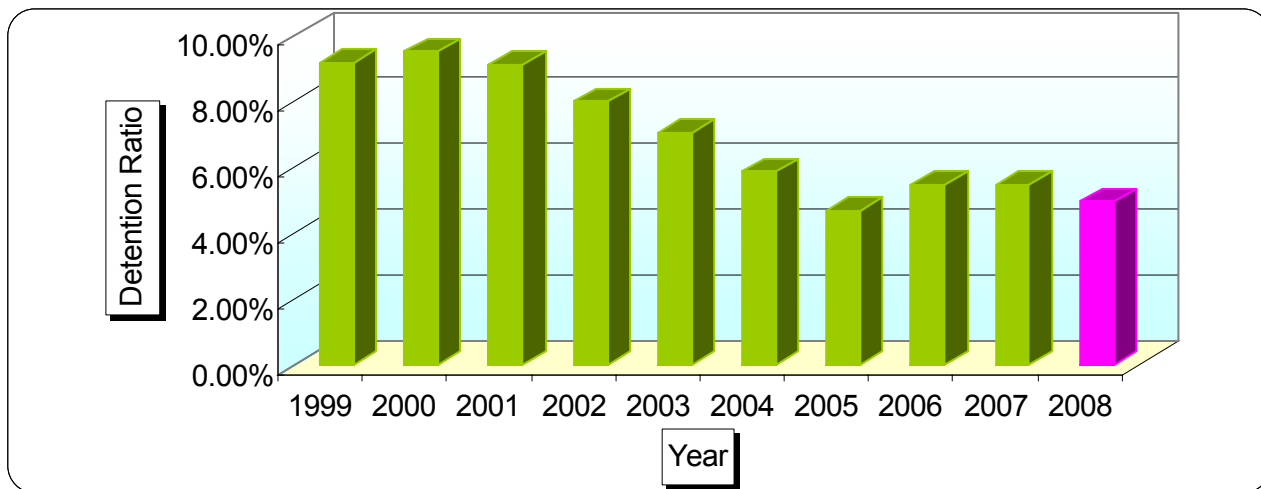
With the strengthened PSC inspection, a total number of deficiencies identified increased. Fire safety measures, life saving appliances and safety of navigation were the most frequently identified deficiencies and continue to increase each year.

Table 1 Flags on Black Lists

Flag States	Divisions
Georgia, Sierra Leone, Kiribati, St. Kitts & Nevis, Indonesia,	Very high risk
Cambodia, Mongolia, Korea (Democratic Rep.), Tuvalu	High risk
Maldives	Medium to high risk
Viet Nam, Belize, Thailand	Medium risk

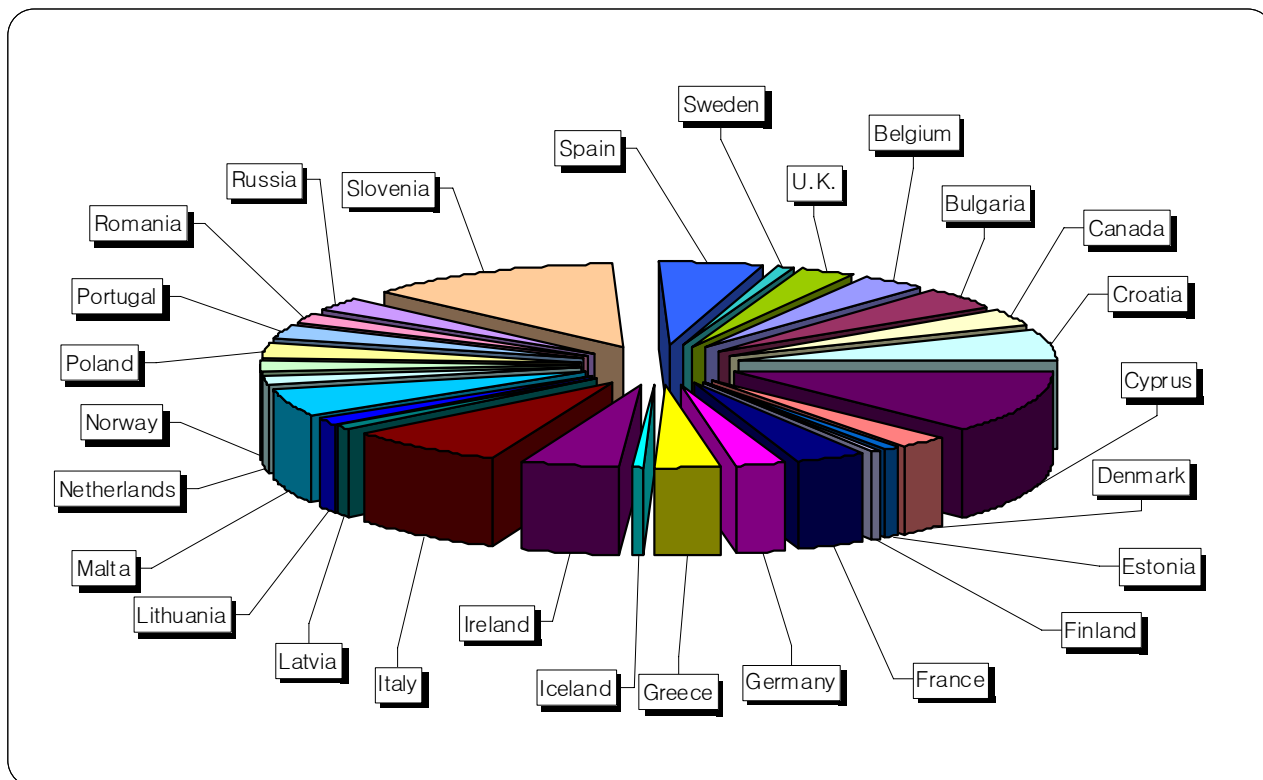
**Statistical Data of the Paris MOU**

Fig. 6 Detention rate by year



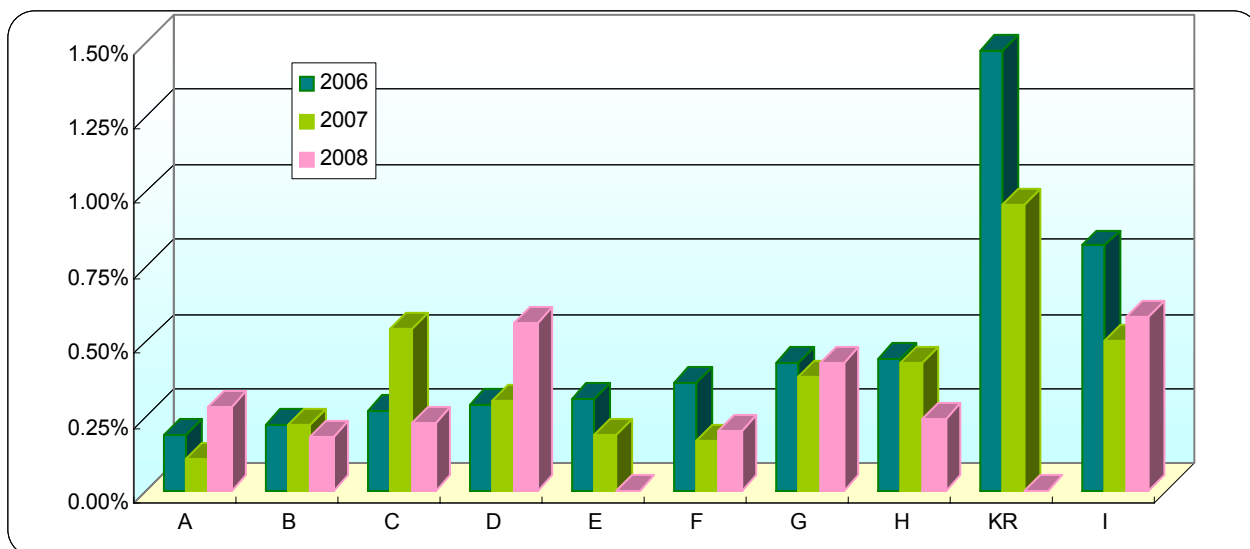
During 2008, 24,647 inspections were carried out against 15,237 individual ships. Out of these, 1,220 ships were detained and the detention rate this year was 4.95%.

Fig. 7 Detention rate by member state of Paris MOU



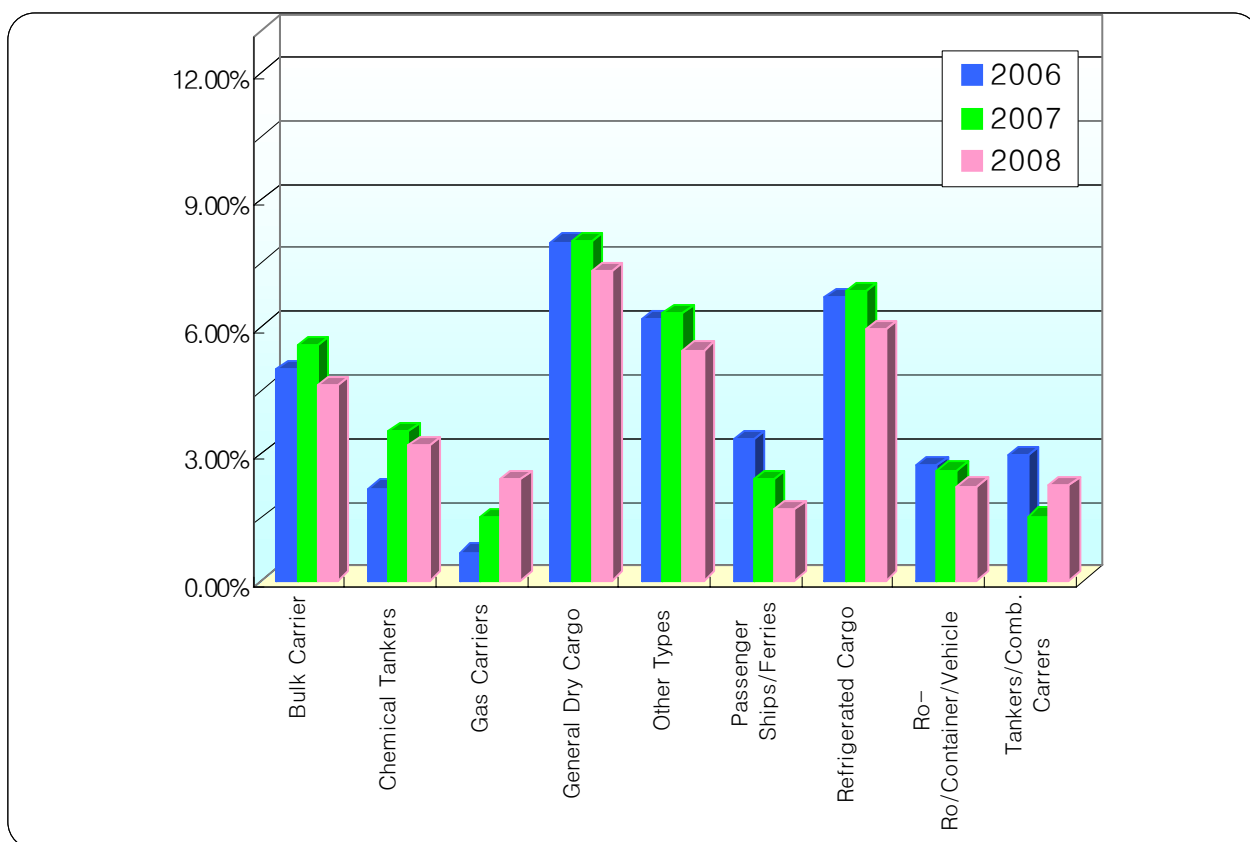
Detention rate posted in Slovenia (17.79%) and the number of detained ships in Italy (212 ships) and in Spain (165 ships) was especially high in comparison with the ones in other Authorities.

Fig. 8 Class-related detention rate by IACS member



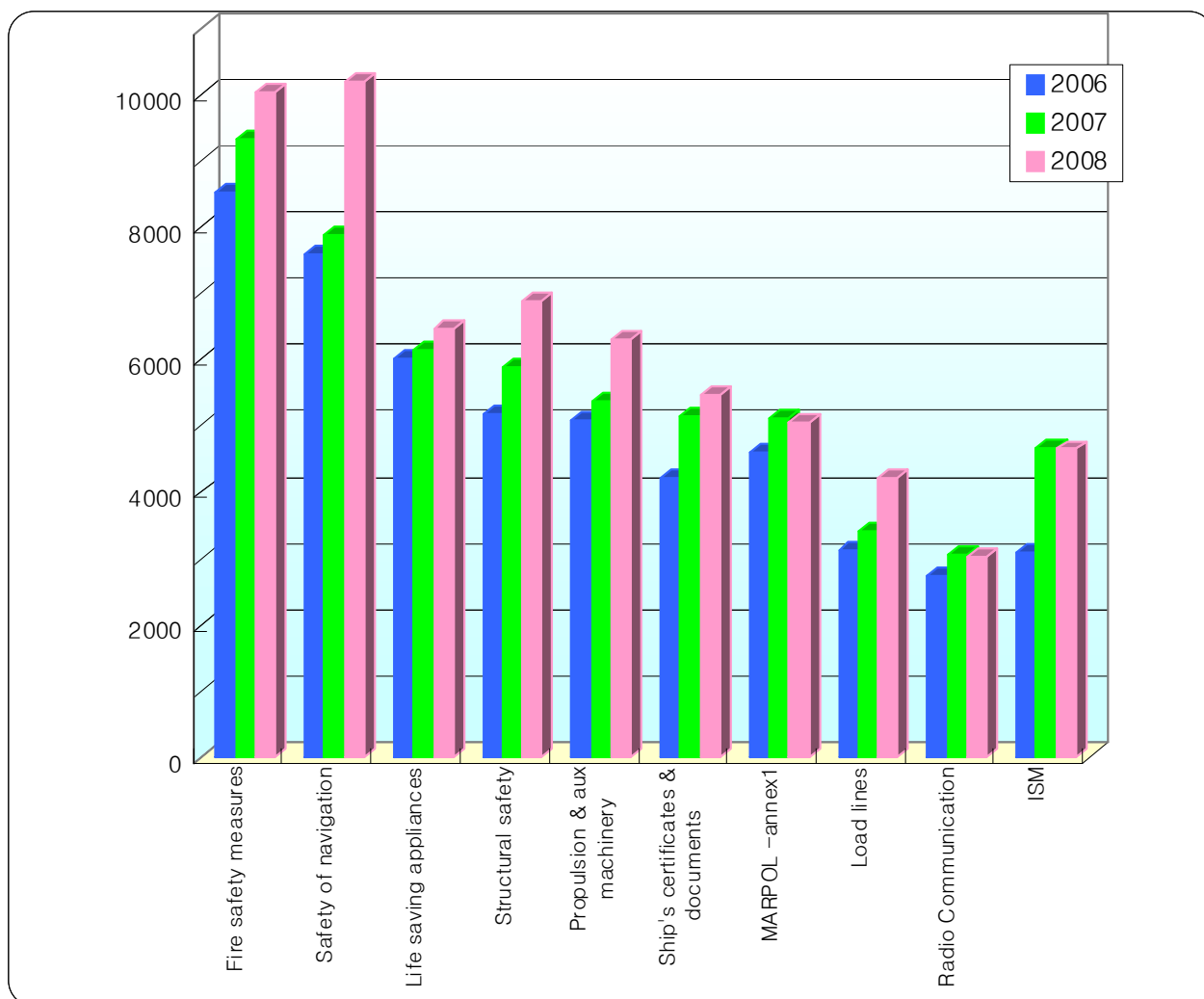
In 2008, 300 PSC inspections were carried out against KR-classed ships and no (0) detention was identified as the class-related.

Fig. 9 Detention rate by ship type



The detention rates for general dry cargo and refrigerated cargo ships were ranked highest in comparison with other ship types.

Fig. 10 Number of deficiencies by main category



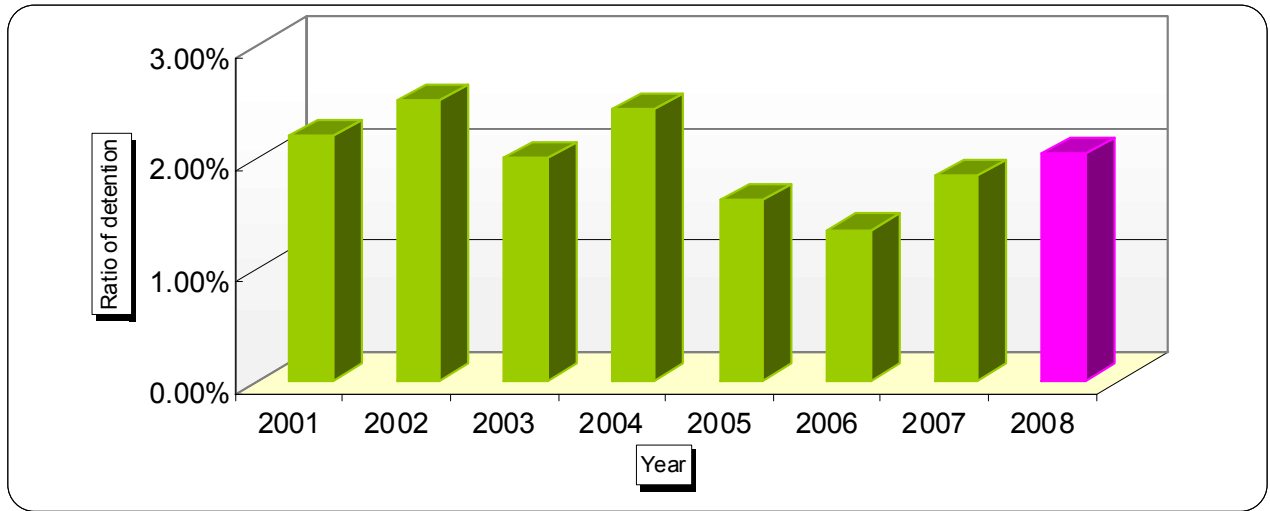
A total of 83,751 deficiencies was recorded during 2008. In 2008, deficiencies in vital safety areas such as safety of navigation, fire safety measures, structural safety and life saving appliances navigation accounted for 40% of the total number of deficiencies.

Table 2 Flags on Black Lists

Flag States	Divisions
Korea (DPR), Bolivia, Albania, Libyan Arab Jamahiriya, Sierra Leone, Comoros	Very high risk
Cambodia, Georgia, Slovakia, Syrian Arab Republic, St. Kitts and Nevis	High risk
Lebanon, Honduras, Mongolia, Egypt, St. Vincent and the Grenadines	Medium to high risk
Republic of Moldova, Belize, Panama, Ukraine, Dominica	Medium risk

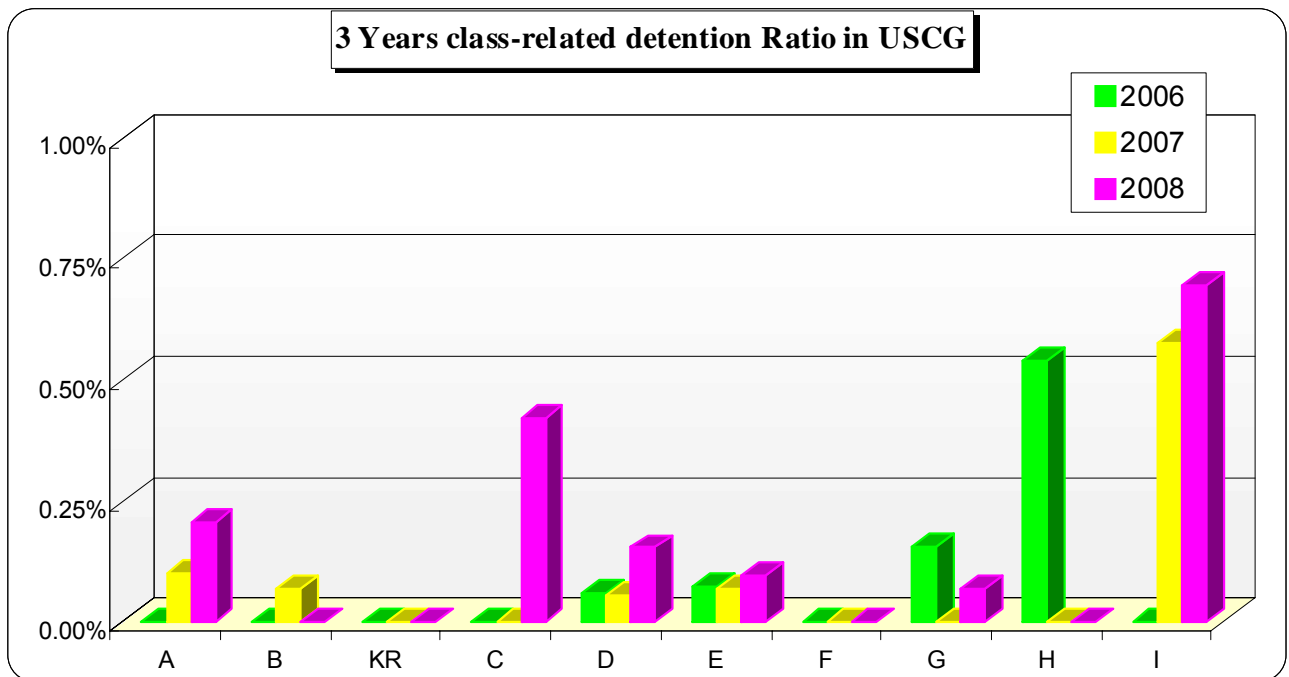
**Statistical Data of the USCG**

Fig. 11 Detention rate by year



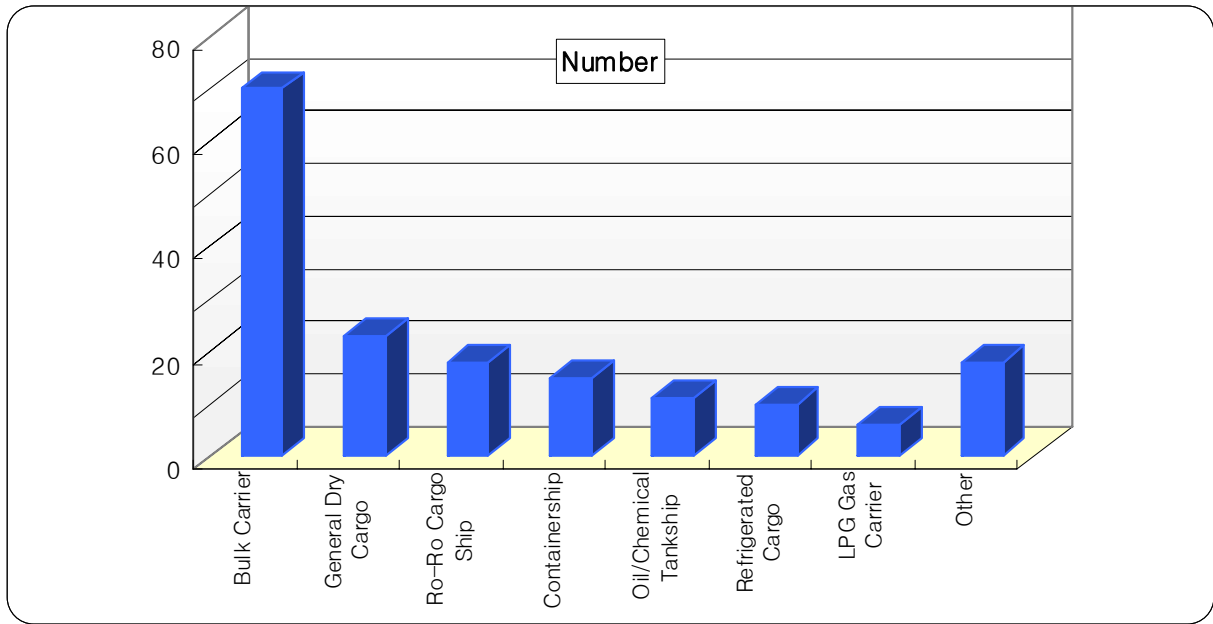
A total of 8,661 individual vessels, from 86 different Flag Administrations, made 82,103 port calls to the United States. The Coast Guard conducted 11,578 SOLAS safety exams on these vessels. The total number of ships detained in 2008 for safety related deficiencies increased from 152 to 176, while the number for security related deficiencies decreased from 42 to 27. At the same time, the number of distinct arrivals from 2007 to 2008 increased from 8,281 to 8,661.

Fig. 12 Class-related detention rate by IACS member



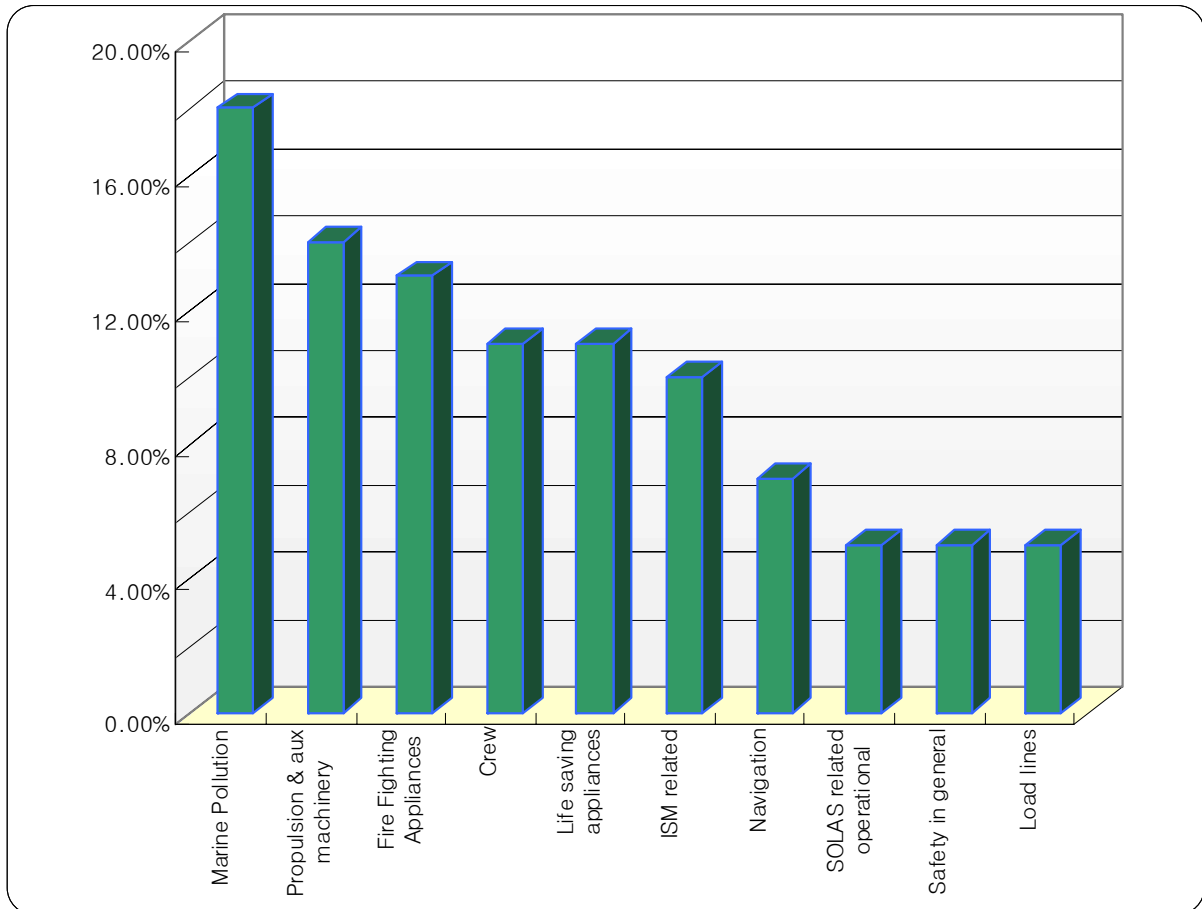
Class-related detentions increased from 12 in 2007 to 14 in 2008. There was zero (0) class-related detention for KR-classed ships for seven (7) consecutive years (since 2002).

Fig. 13 Number of detention by ship type



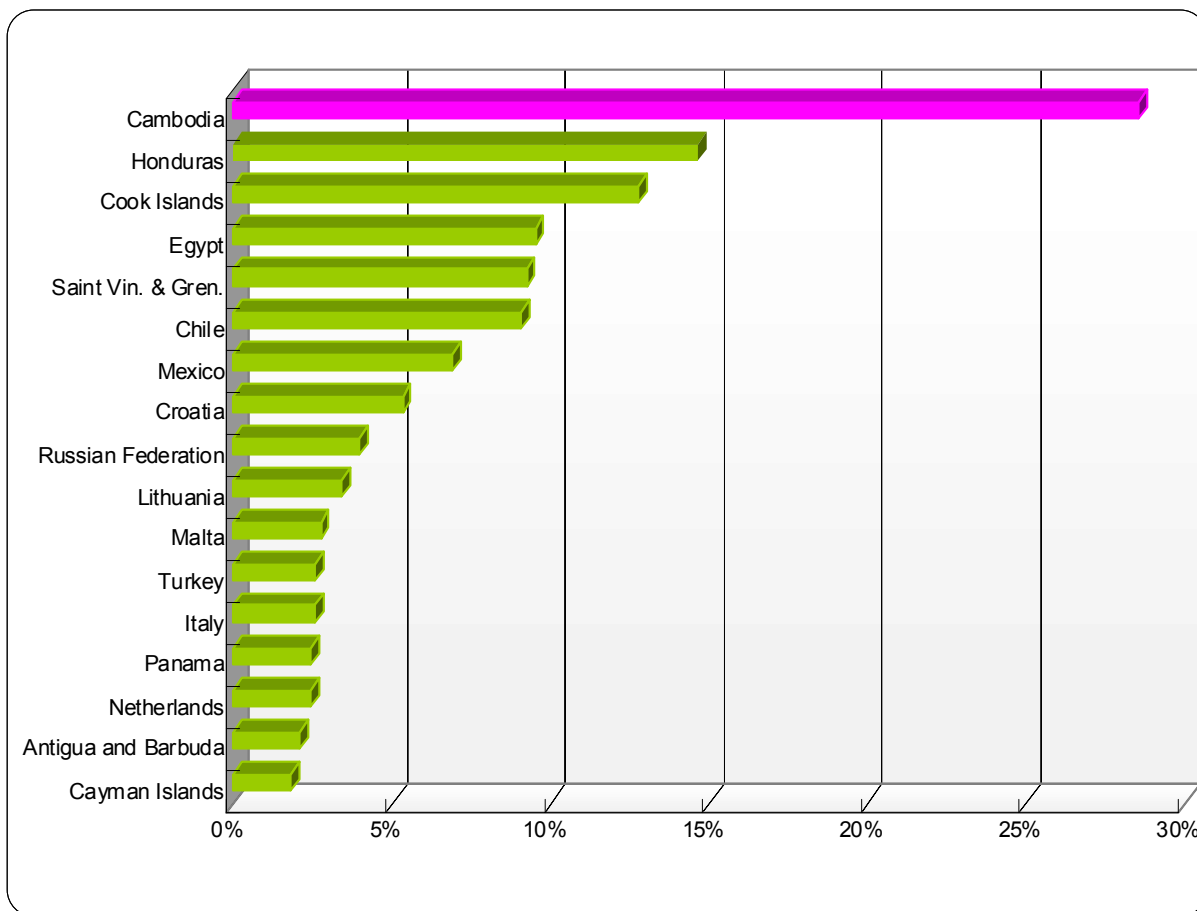
☞ The number of detentions for bulk carrier ranked the highest in comparison with other ship types.

Fig. 14 Type of safety deficiencies



☞ In 2008, deficiencies relating to marine pollution, propulsion and auxiliary machinery, and fire fighting appliances accounted for 45% of the total number of deficiencies.

Fig. 15 Detention rates for targeted flag States



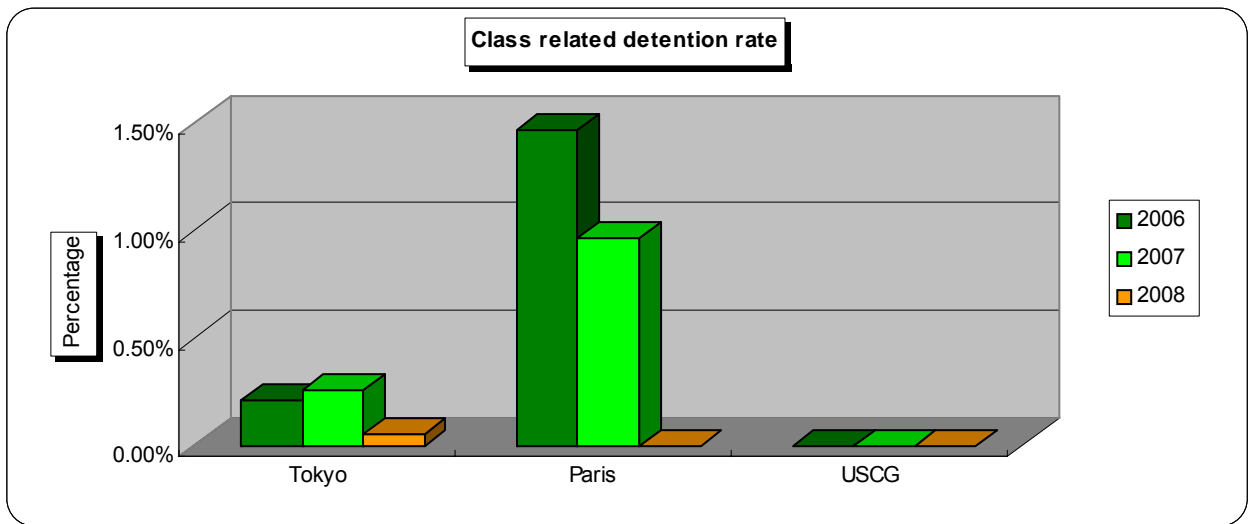
☞ The detention rates were based on the data of previous three years (2006, 2007 and 2008). In 2008, the overall flag State performance decreased, with the three-year running detention ratio rising from 1.82% to 2.03%.

Table 3 Lists on targeted flag

Flag States	Division
Cambodia, Chile, Cook Islands, Croatia, Egypt, Honduras, Mexico, Russian Federation, Saint Vincent and the Grenadines	7 points
Antigua and Barbuda, Cayman Islands, Italy, Lithuania, Malta, Netherlands, Panama, Turkey	2 points

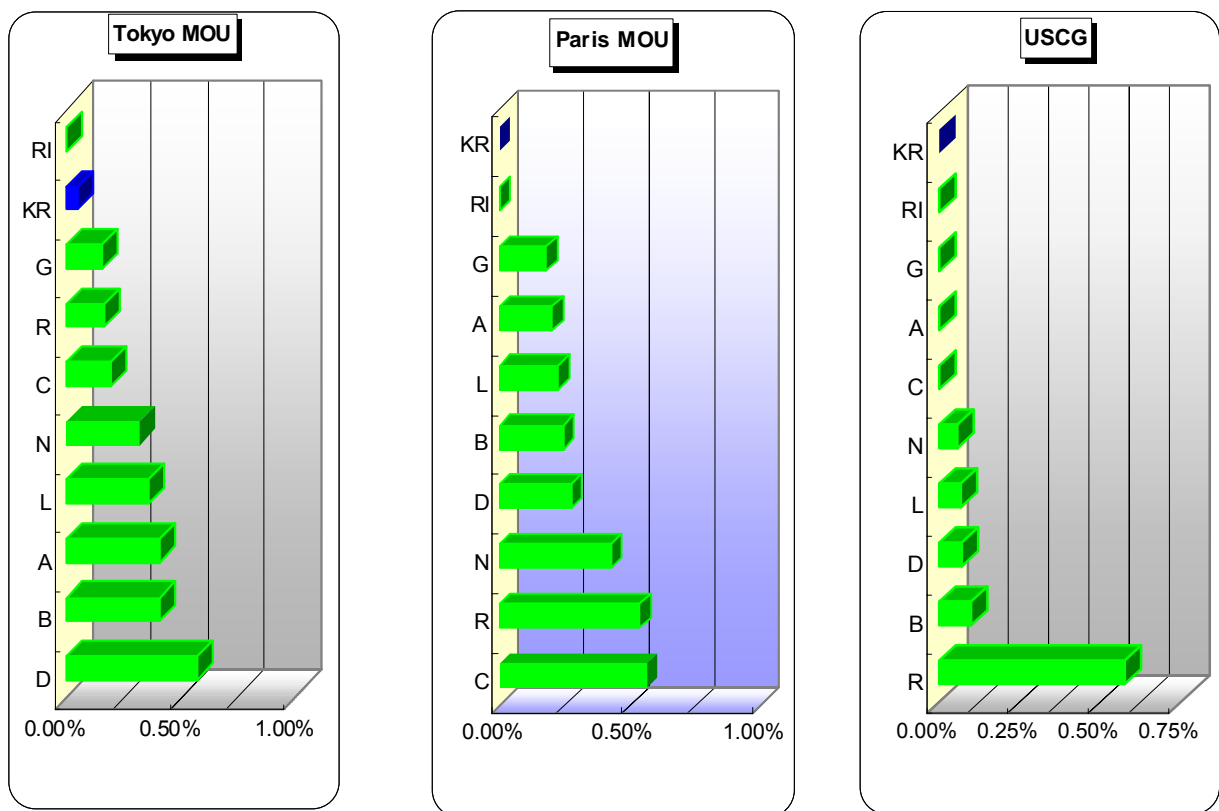
## Detention Data of KR-classed Ships

Fig. 16 Detention rate by PSC regime



The PSC detention rate of KR-classed vessels decreased from 0.96% last year to 0% this year in the Paris MOU. No detention has been recorded in the USCG since 2002 and the detention rate in the Tokyo MOU decreased also in 2008.

Fig. 17 Detention rates of IACS members in 2008 at PSC regime



The PSC record of KR-classed vessels in the USCG was one of the best amongst IACS member societies. And KR maintained its status in the 'High Performance Level List' according to the Paris and Tokyo MOU Annual Report 2008.

Fig.18 Monthly detentions number in 2008 by PSC regime

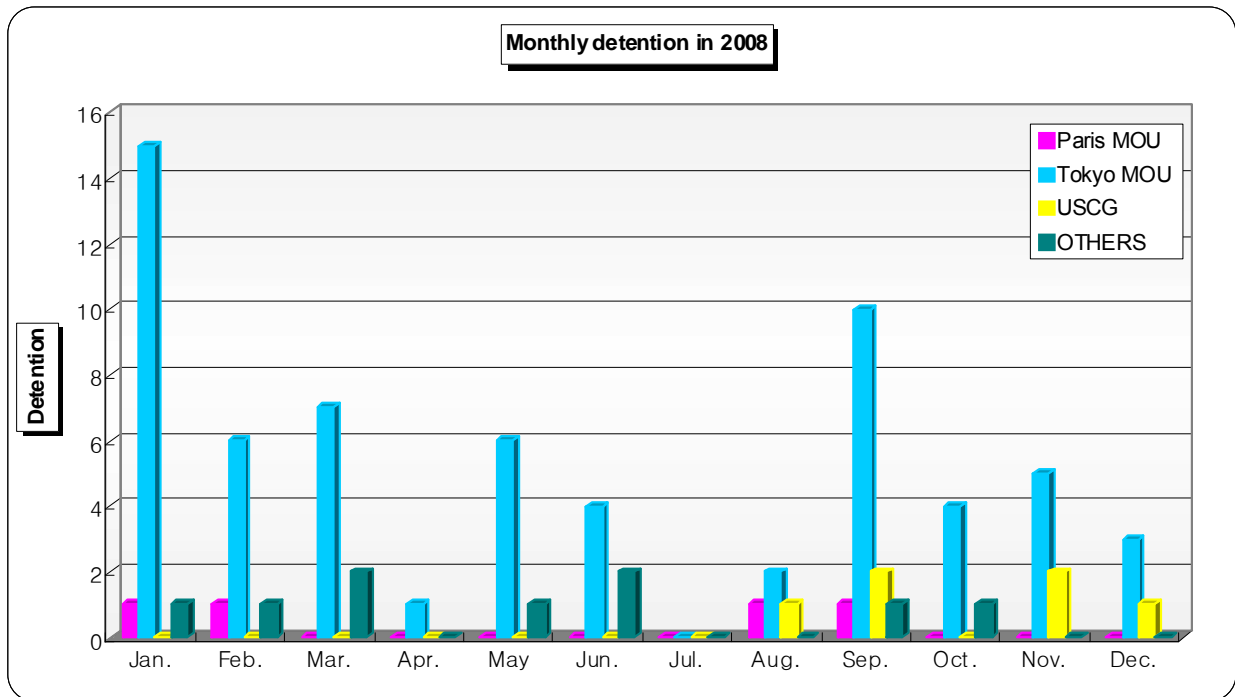
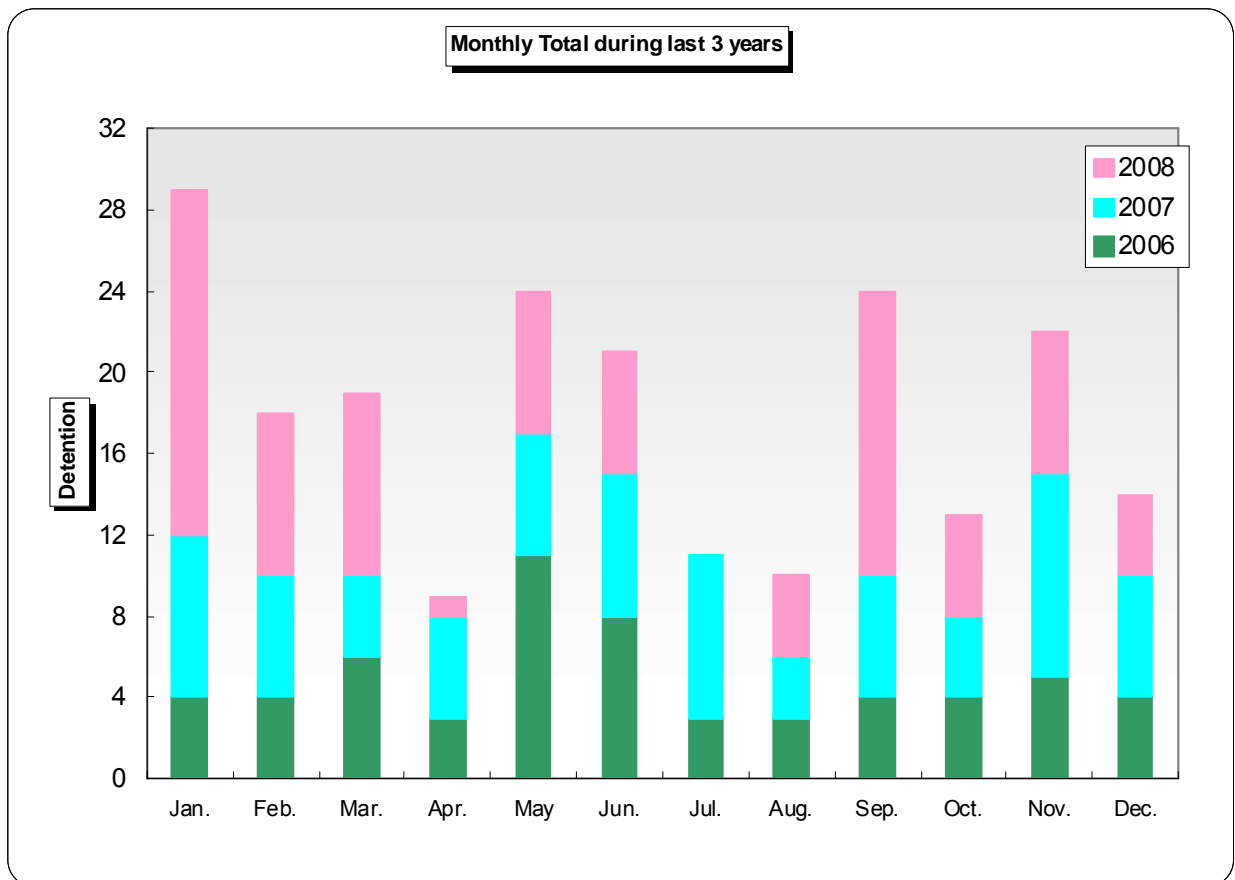


Fig.19 Monthly detentions in total during last 3 years



Detentions in USCG and Paris MOU were mainly imposed at the beginning and end of the year. The number of detention in January and September were high in Tokyo MOU region.

Fig. 20 Number of detentions by port Authority

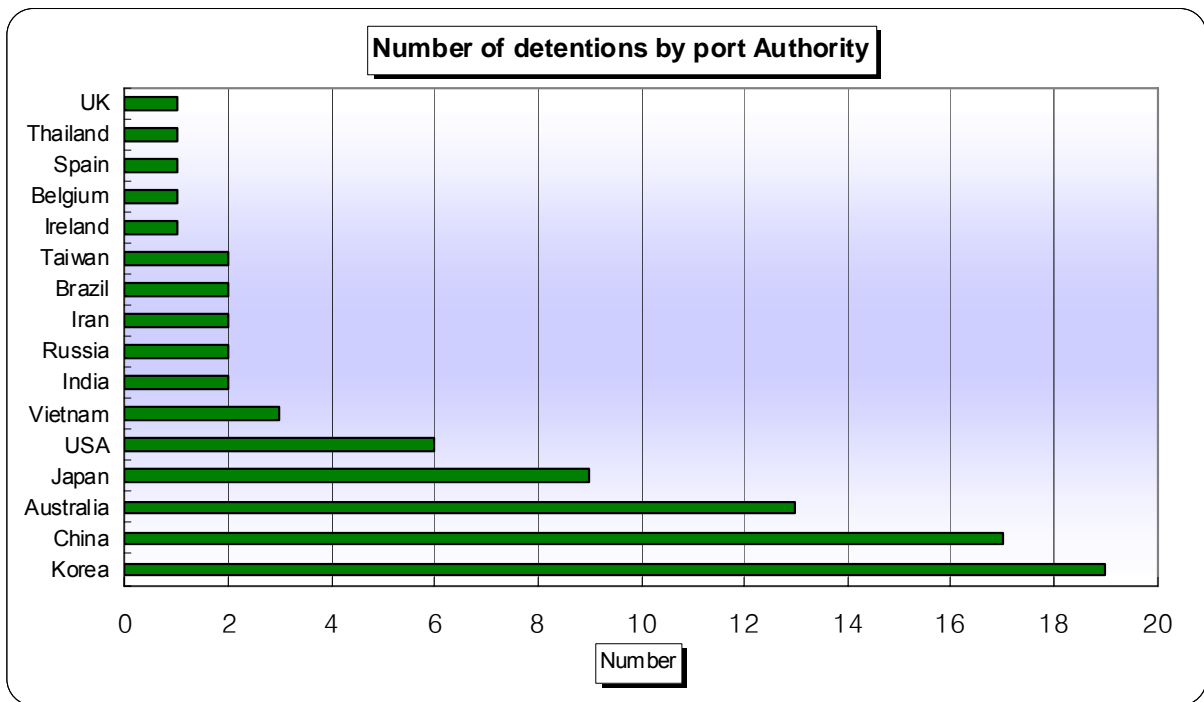
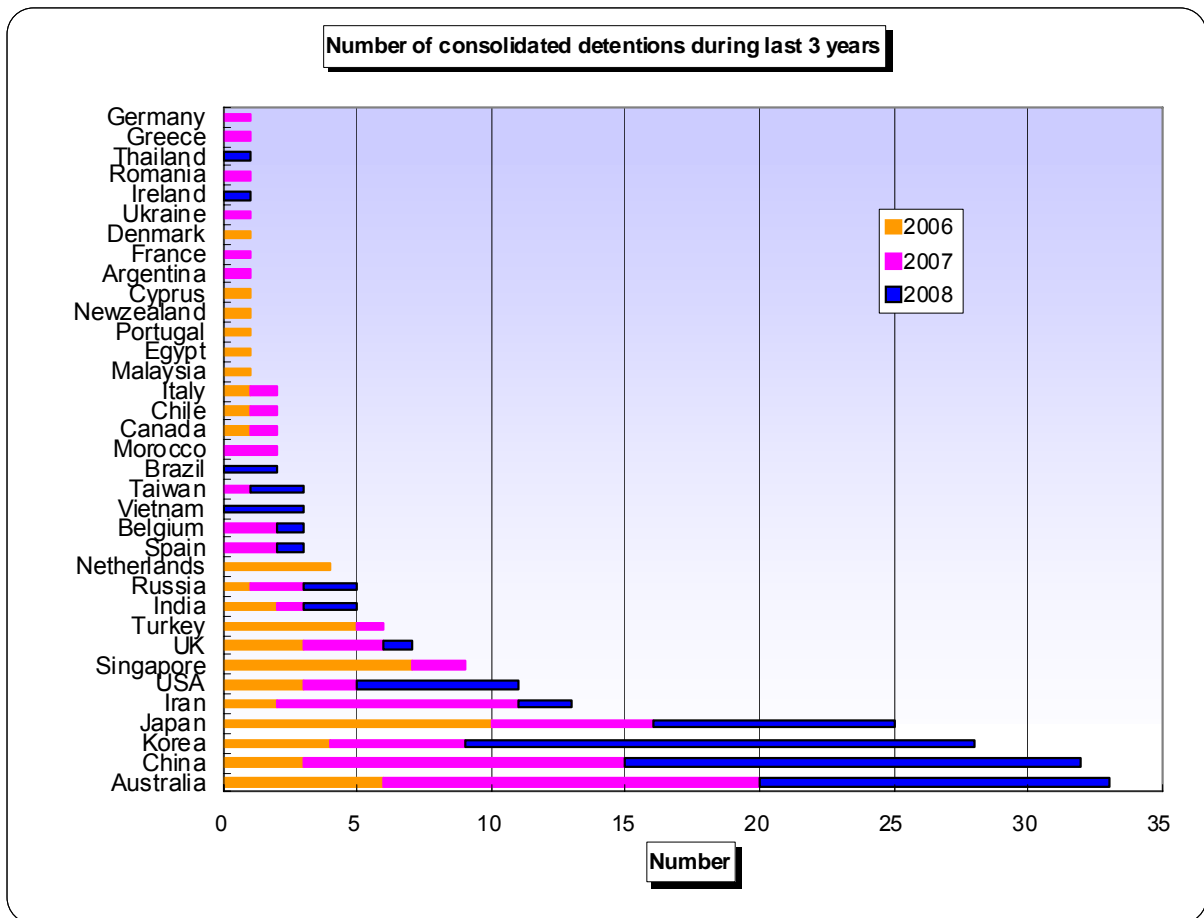


Fig. 21 Number of detentions by port Authority during last 3 years



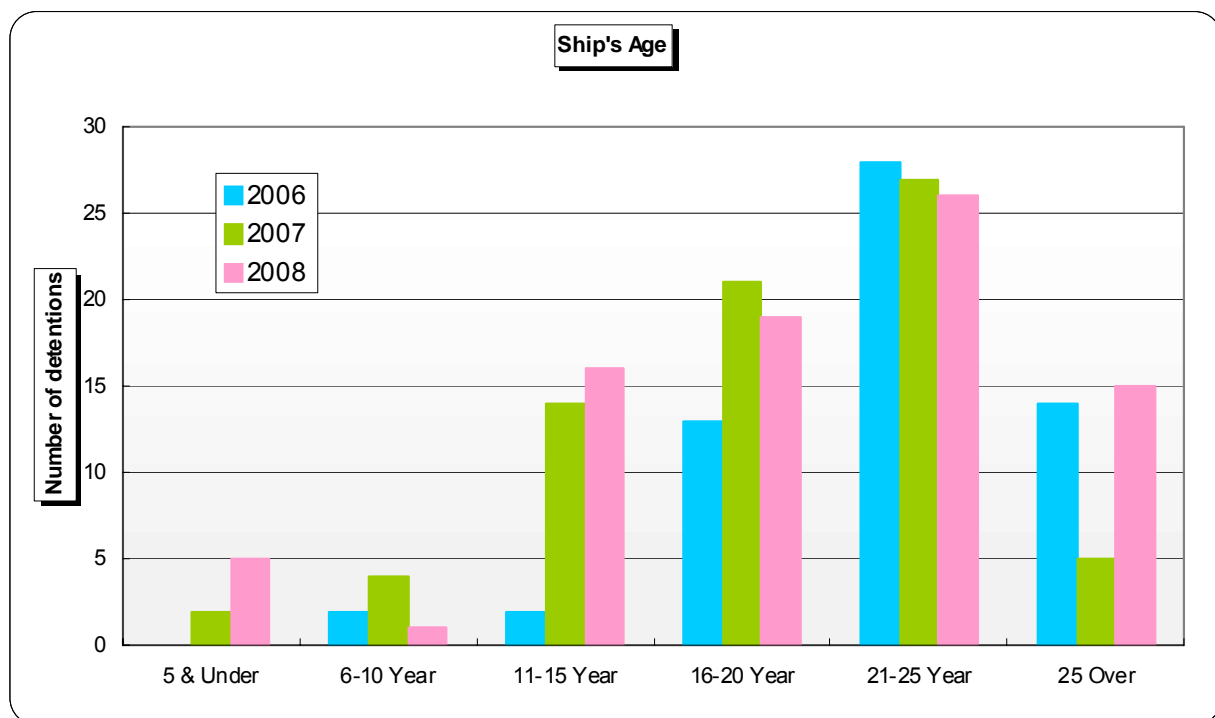
Australia, China, Korea and Japan were top four Authorities which had imposed PSC detentions against KR-classed ships in both accumulated numbers of PSC detentions for 3 years and in 2008.

Fig. 22 Number of detentions by ship type



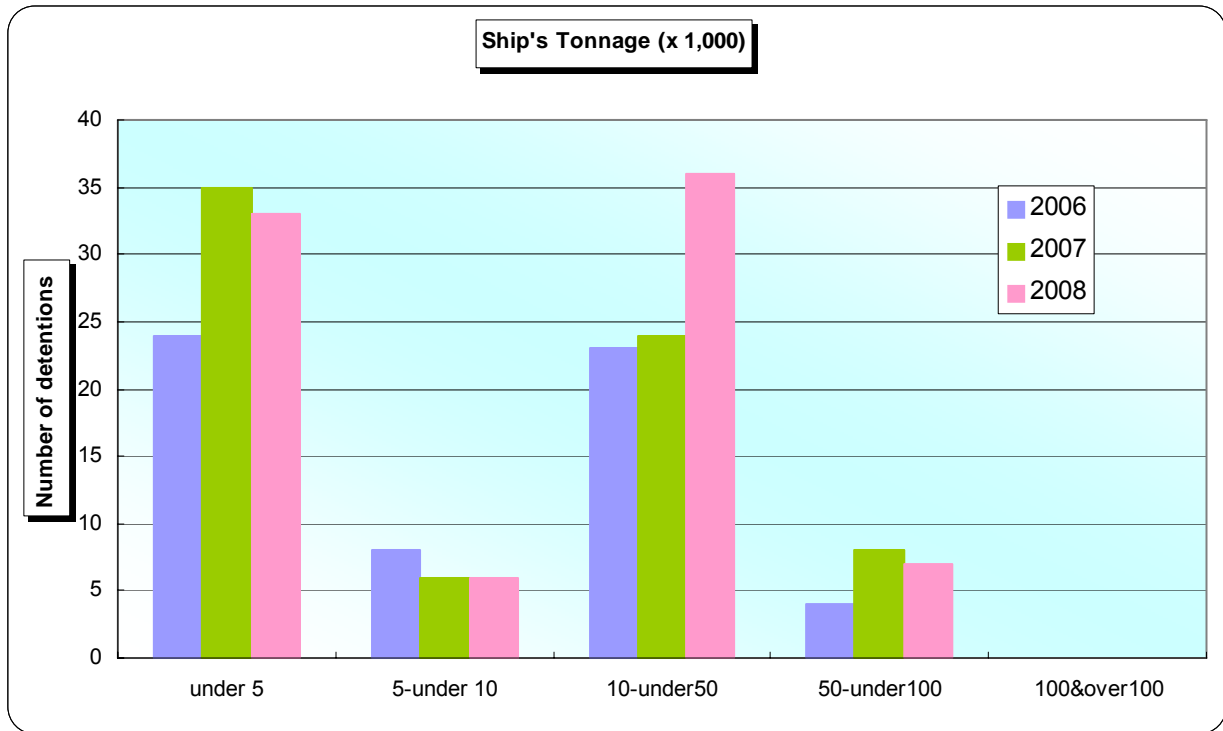
In comparison with the other ship types, the number of detentions for bulk carrier was the highest. In addition, the number of detentions for Passenger ship has increased noticeably as a result of the special inspection campaign on Passenger ship by Korean Government.

Fig. 23 Number of detentions by age



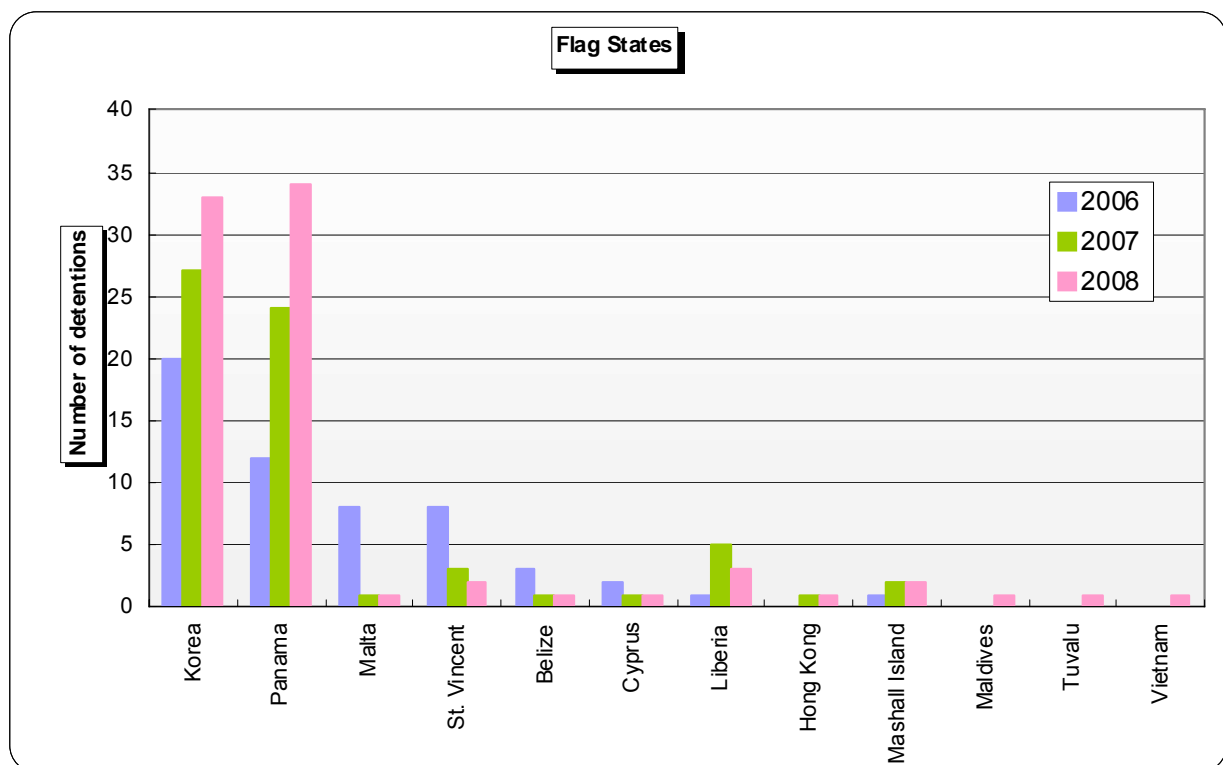
The number of detained ships in the age group of 11-15 years increased steadily. The number of ships in the age group of 16 – 20 years generally increased as well. The number of detained ships in the age group of 21 to 25 years was the highest.

Fig. 24 Number of detentions by tonnage



The number of detentions for ships under 5,000 tons increased generally. About 58 percent of ships in this tonnage group were cargo ships and 21 percent were chemical tankers. The number of detentions for ships between 10,000 and 50,000 tons increased rapidly and among them, about 47percent were bulk carriers.

Fig. 25 Number of detention by flag State

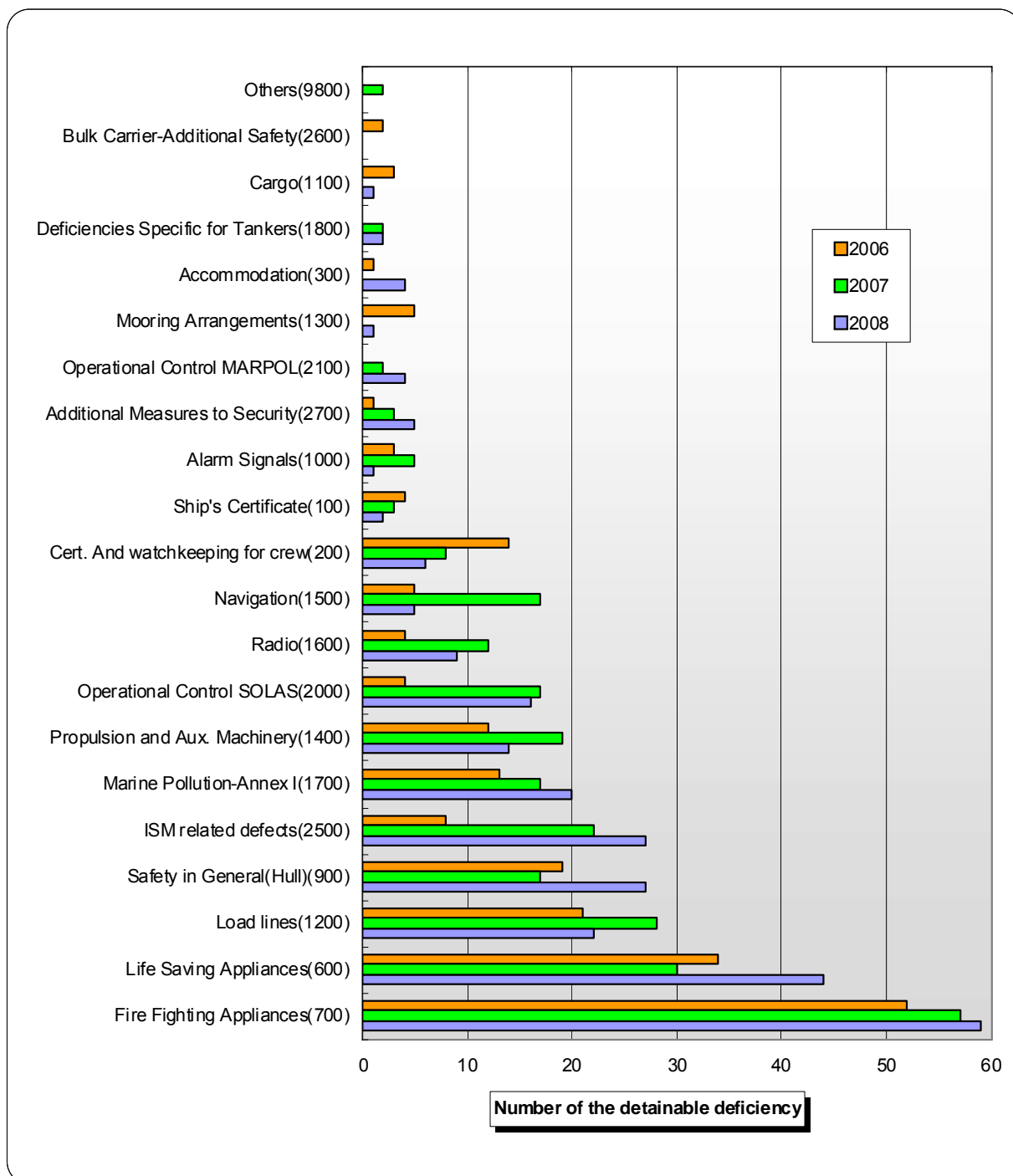


The number of detentions for Korea (Republic of Korea) & Panama flagged vessels have increased noticeably.

## Deficiency Data of KR-classed ships

### PSC Detainable Deficiencies (Code 30)

Fig. 26 Number of Detainable Deficiencies (Code 30) by the code



The total number of detainable deficiencies in 2008 slightly increased by 3% compared to the one in 2007. Fire Fighting Appliances, Life Saving Appliances, Load Lines, Safety in General(Hull), ISM related defects and Marine Pollution-Annex I were in the major PSC detainable deficiencies categories in 2008 and over the last 3 years. In 2008, detainable deficiencies relating to Fire Fighting Appliances, Life Saving Appliances, Safety in General(Hull), ISM related defects and Marine Pollution-Annex I especially increased.

Fig. 26.1 Details of Fire Fighting Appliances (Code 700)

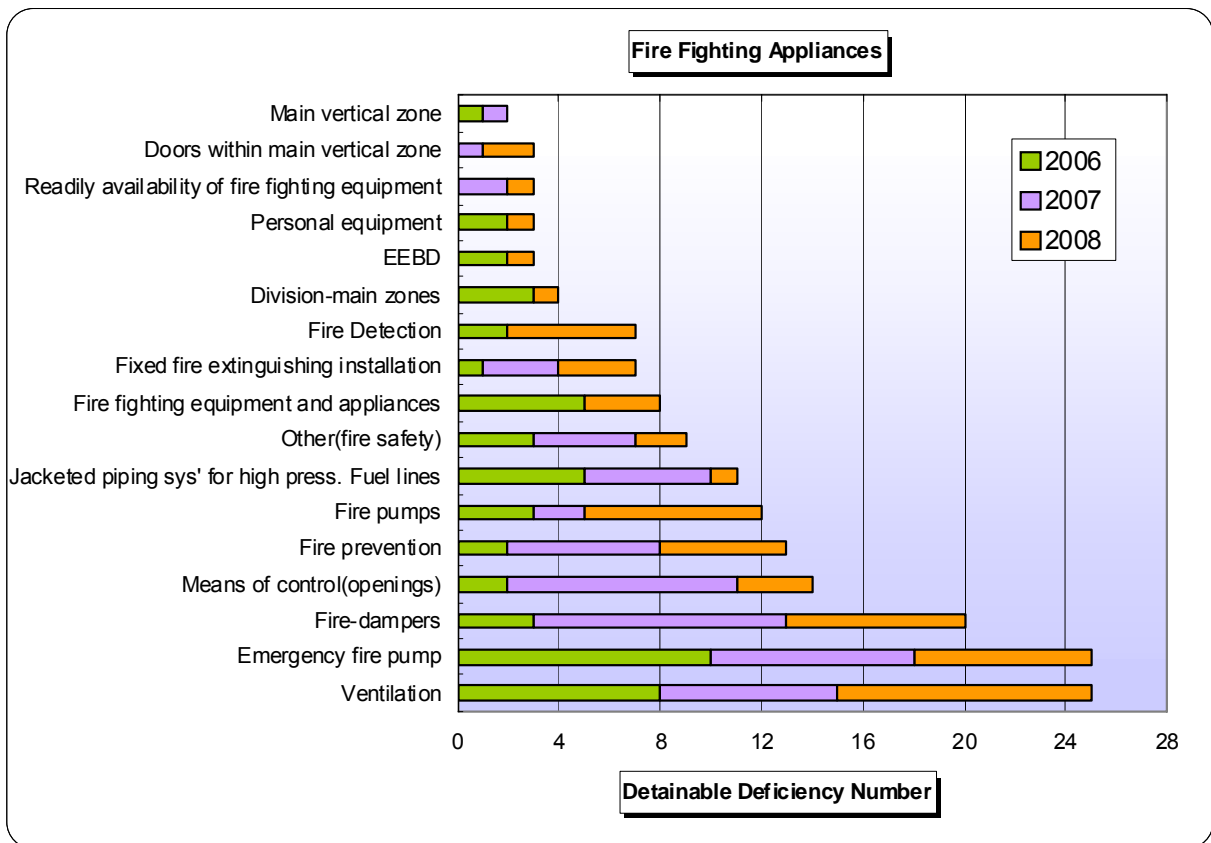


Fig. 26.2 Details of Life Saving Appliances (Code 600)

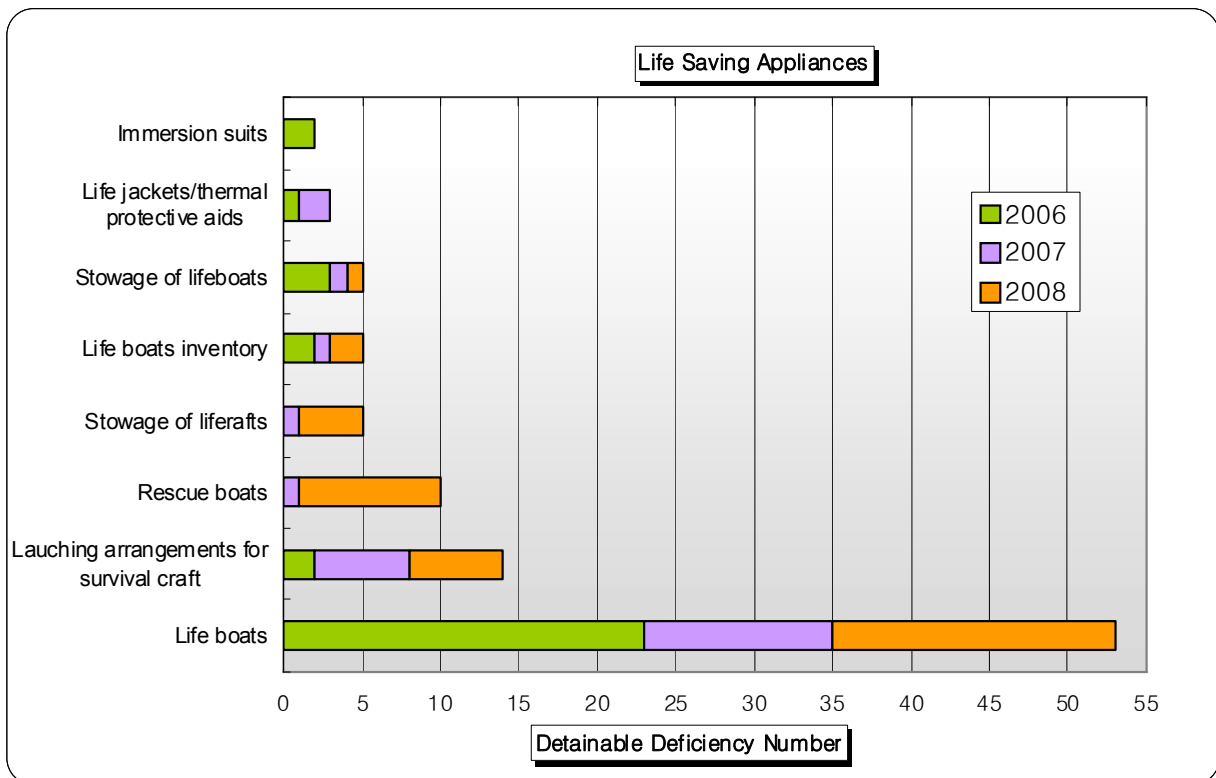


Fig. 26.3 Details of Load Lines (Code 1200)

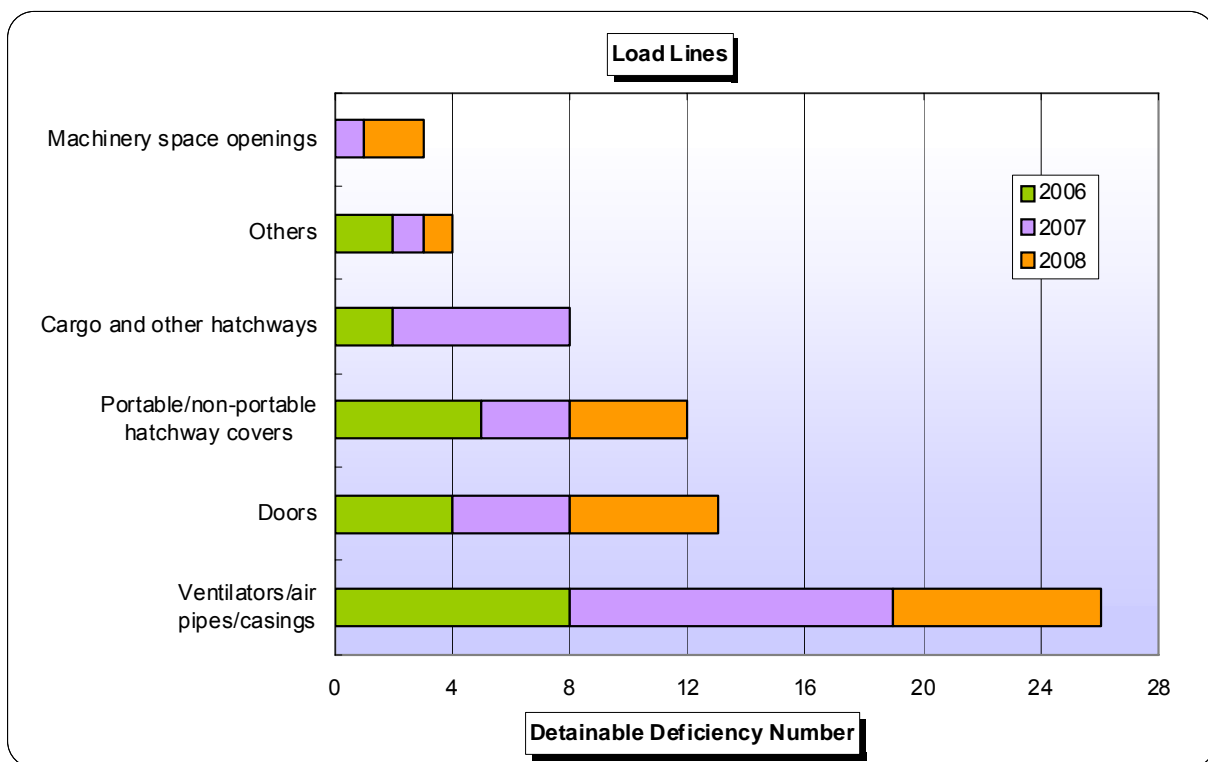


Fig. 26.4 Details of Safety in General (Hull) (Code 900)

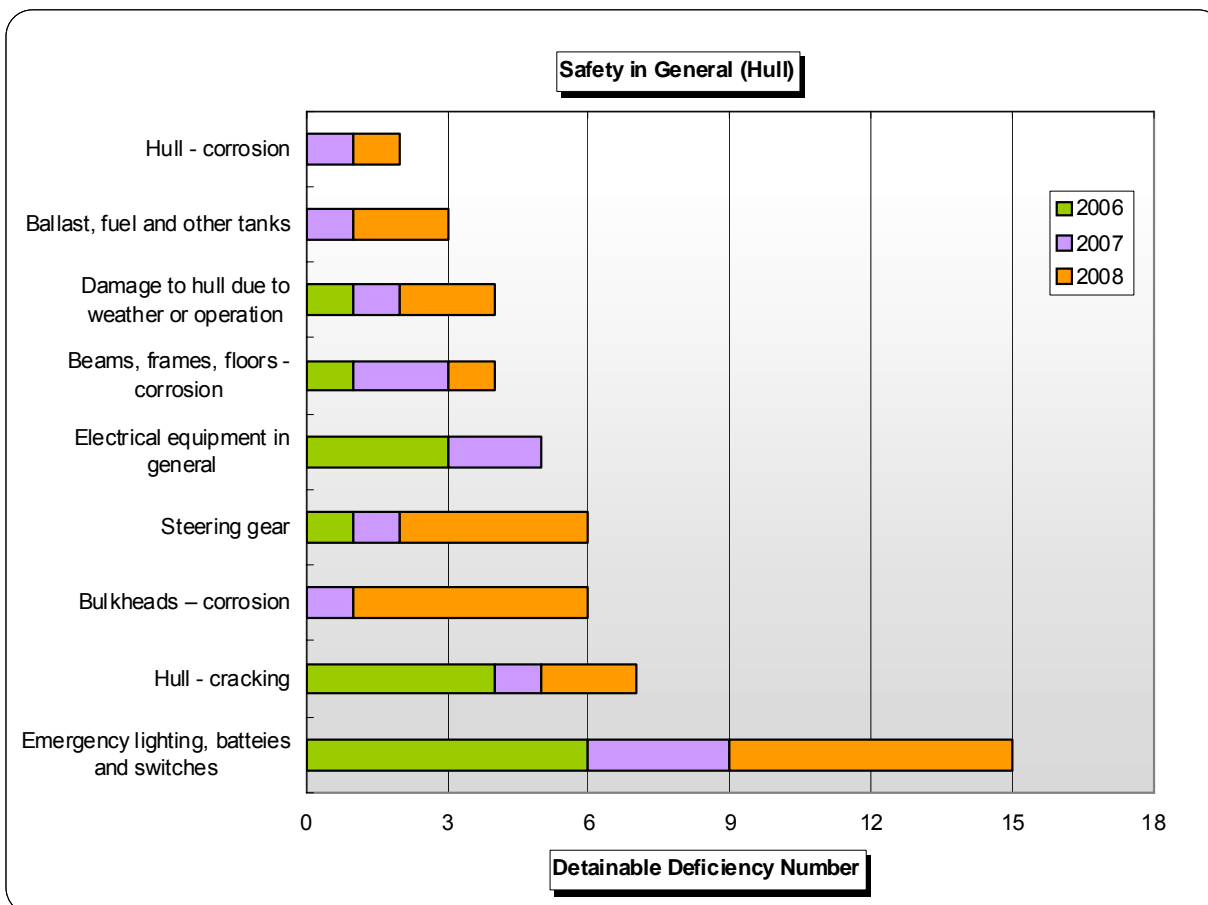


Fig. 26.5 Details of ISM Related Deficiencies (Code 2500)

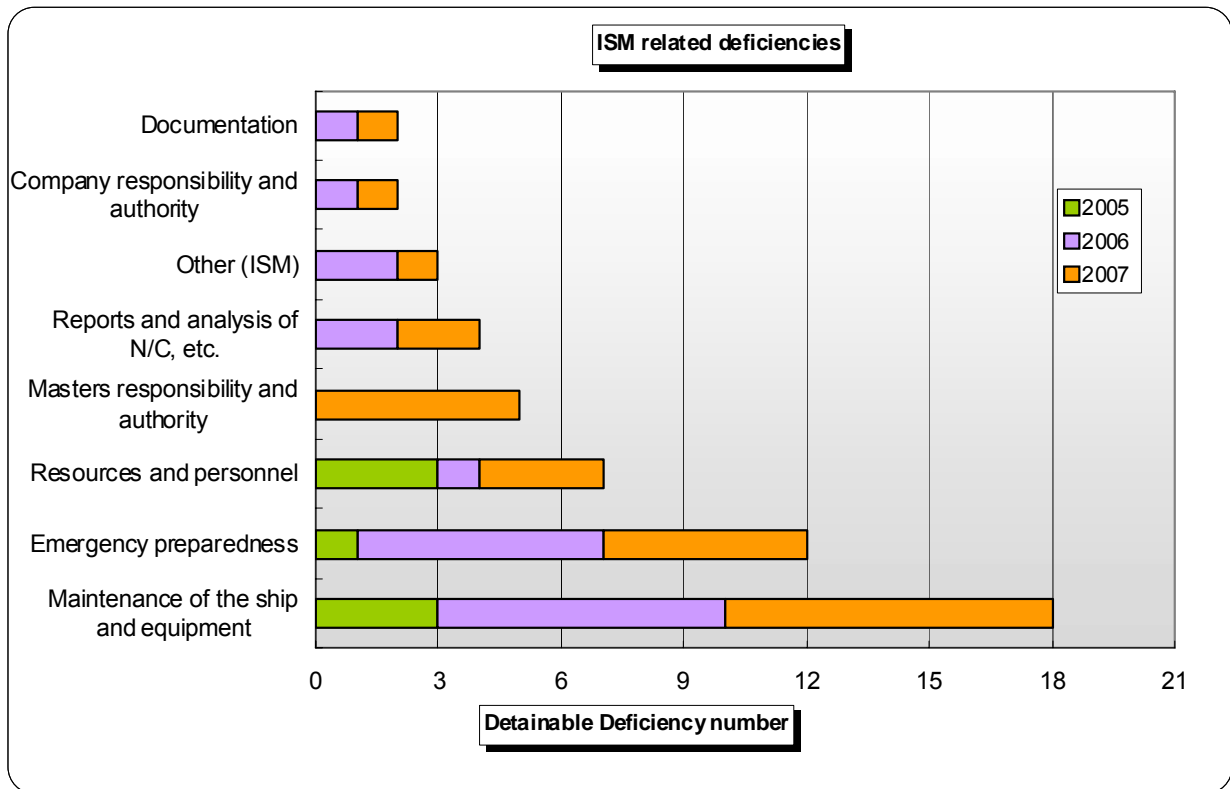


Fig. 26.6 Details of MARPOL Annex I (Code 1700)

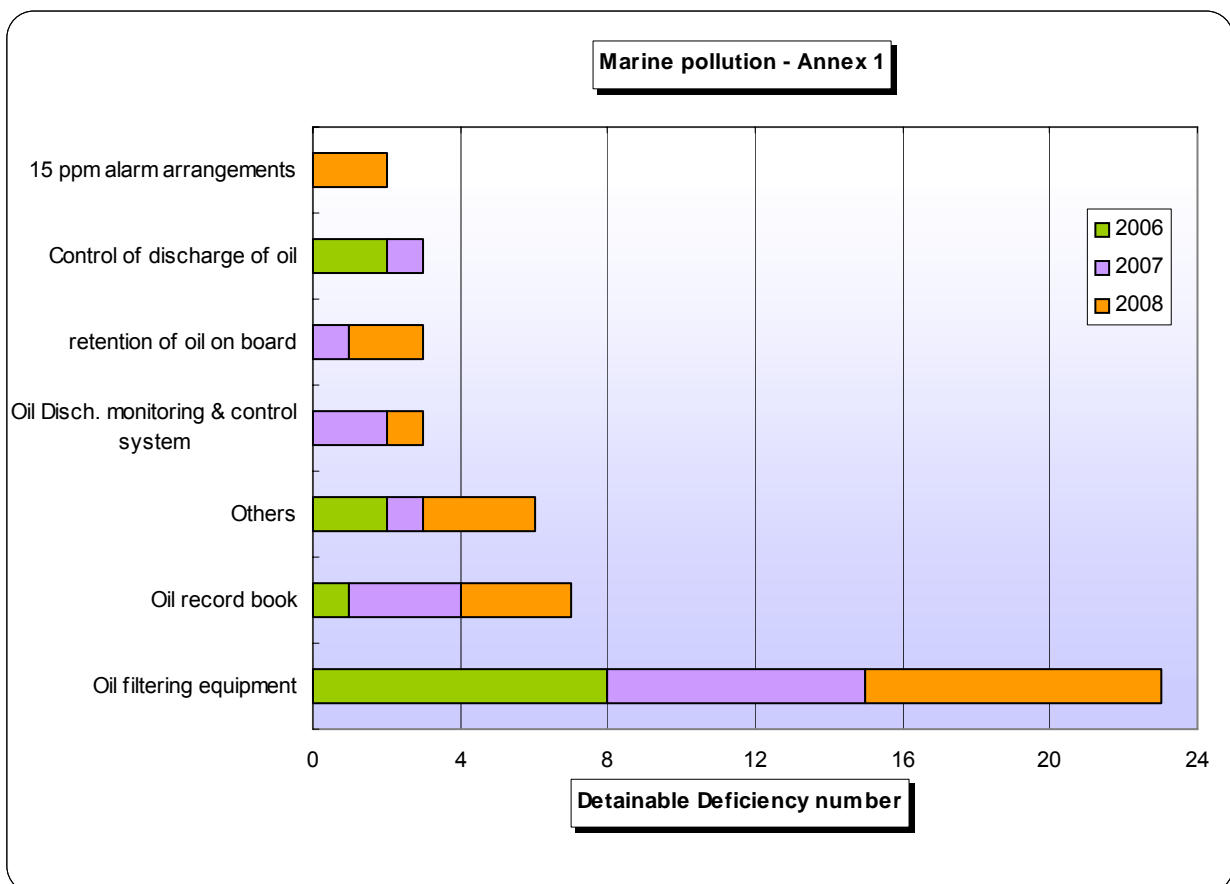


Fig. 26.7 Propulsion and Aux. Machinery (Code1400)

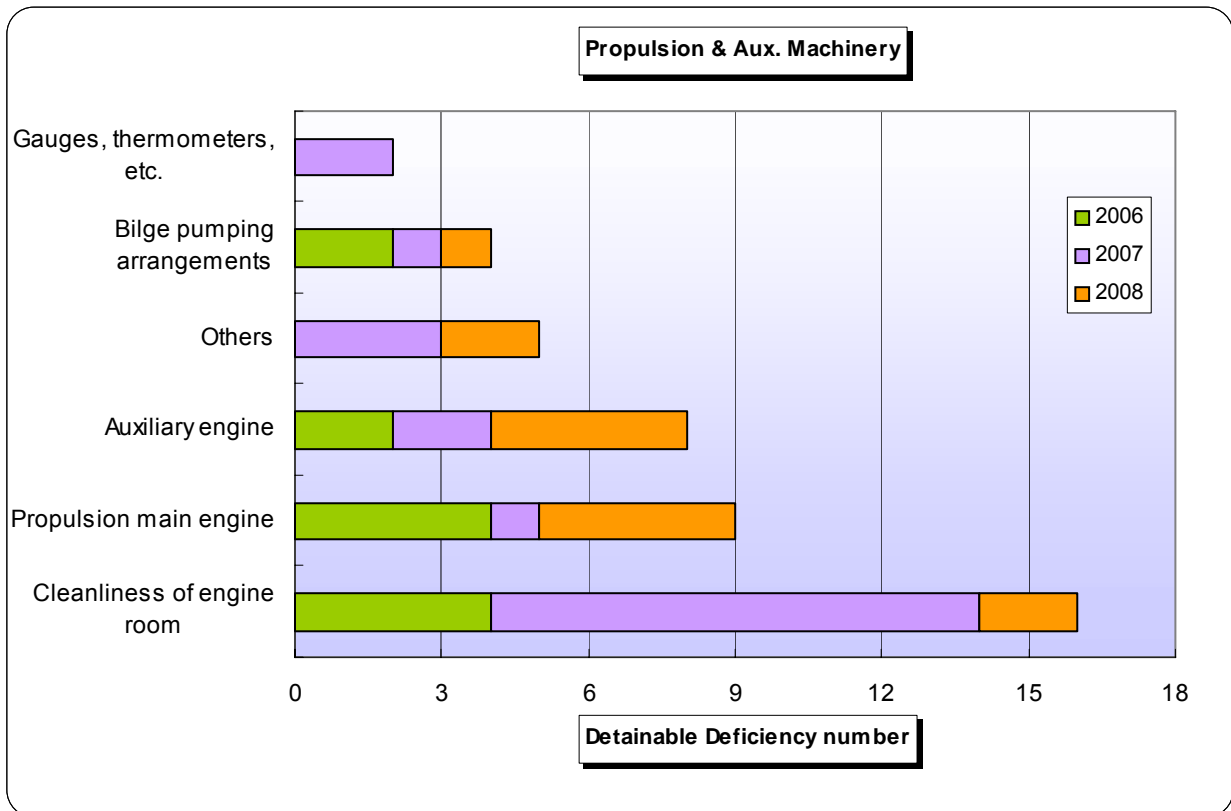
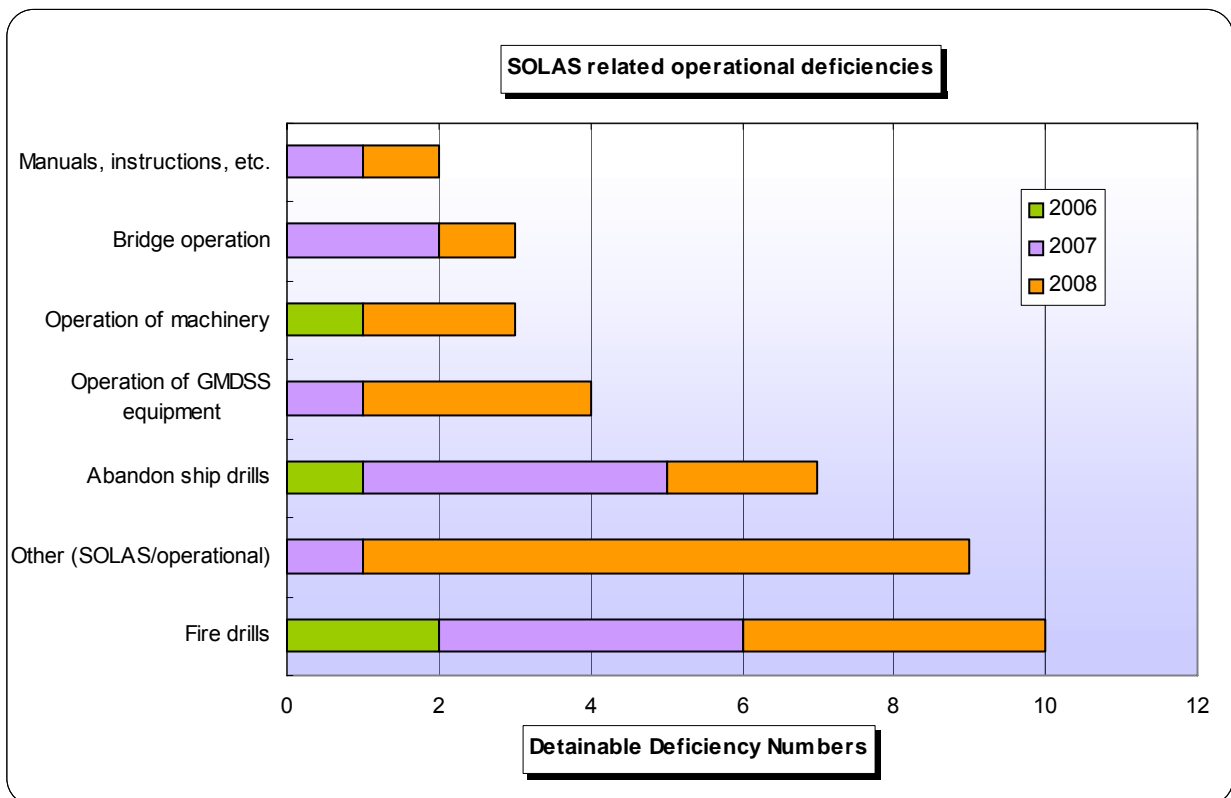
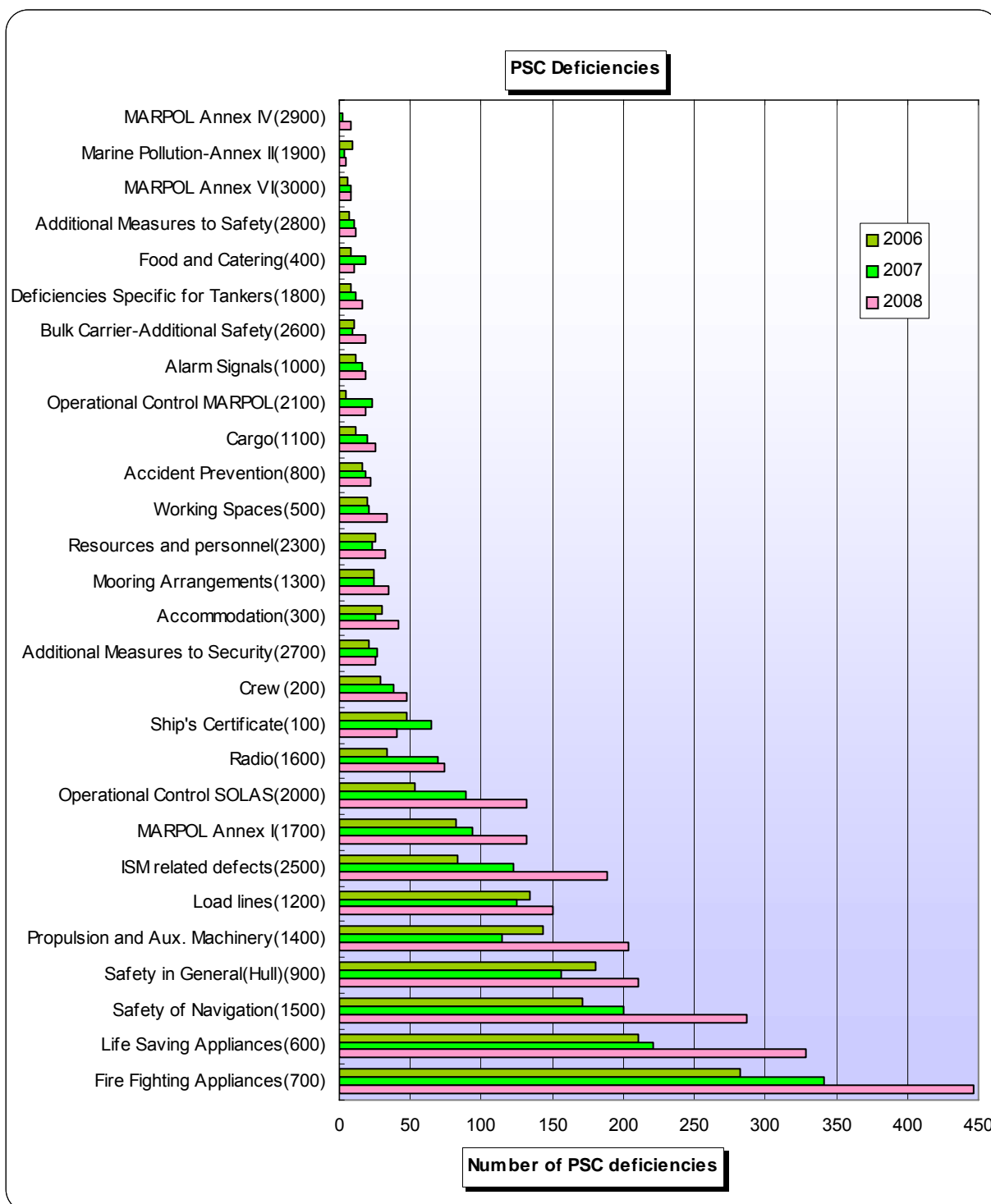


Fig. 26.8 Details of SOLAS related operational deficiencies (Code 2000)



# PSC Deficiencies

Fig. 27 Number of All Deficiencies by the code



With the strengthening of PSC inspection scheme all over the world and more PSC deficiencies other than detainable ones are reported to the KR for consultation, the reported total number of PSC deficiencies in 2008 was noticeably increased by 26% compared to the one in 2007. Fire Fighting Appliances, Life Saving Appliances, Navigation, Safety in General(Hull), Propulsion and Aux. Machinery, Load lines, ISM related defects, Marine Pollution-Annex I and Operational Control SOLAS were in the major PSC deficiencies categories in 2008 and over 3 years.

Fig. 27.1 Details of Fire Fighting Appliances (Code 700)

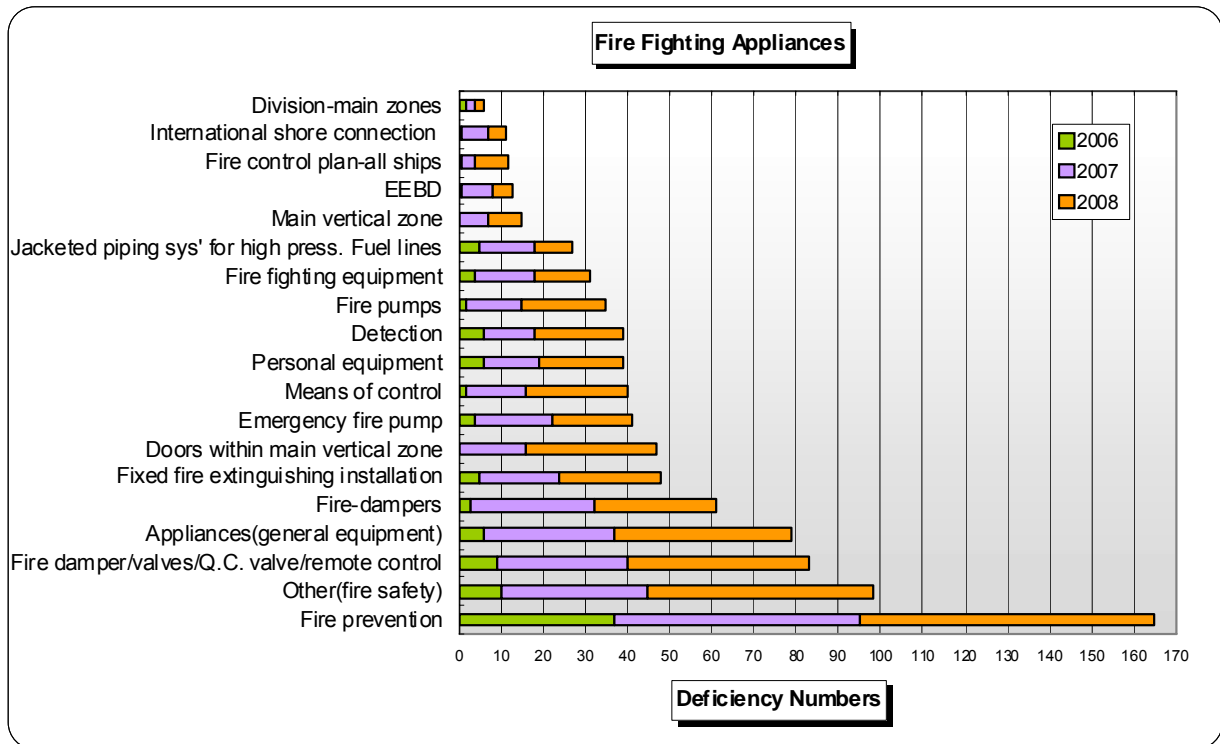


Fig. 27.2 Details of Life Saving Appliances (Code 600)

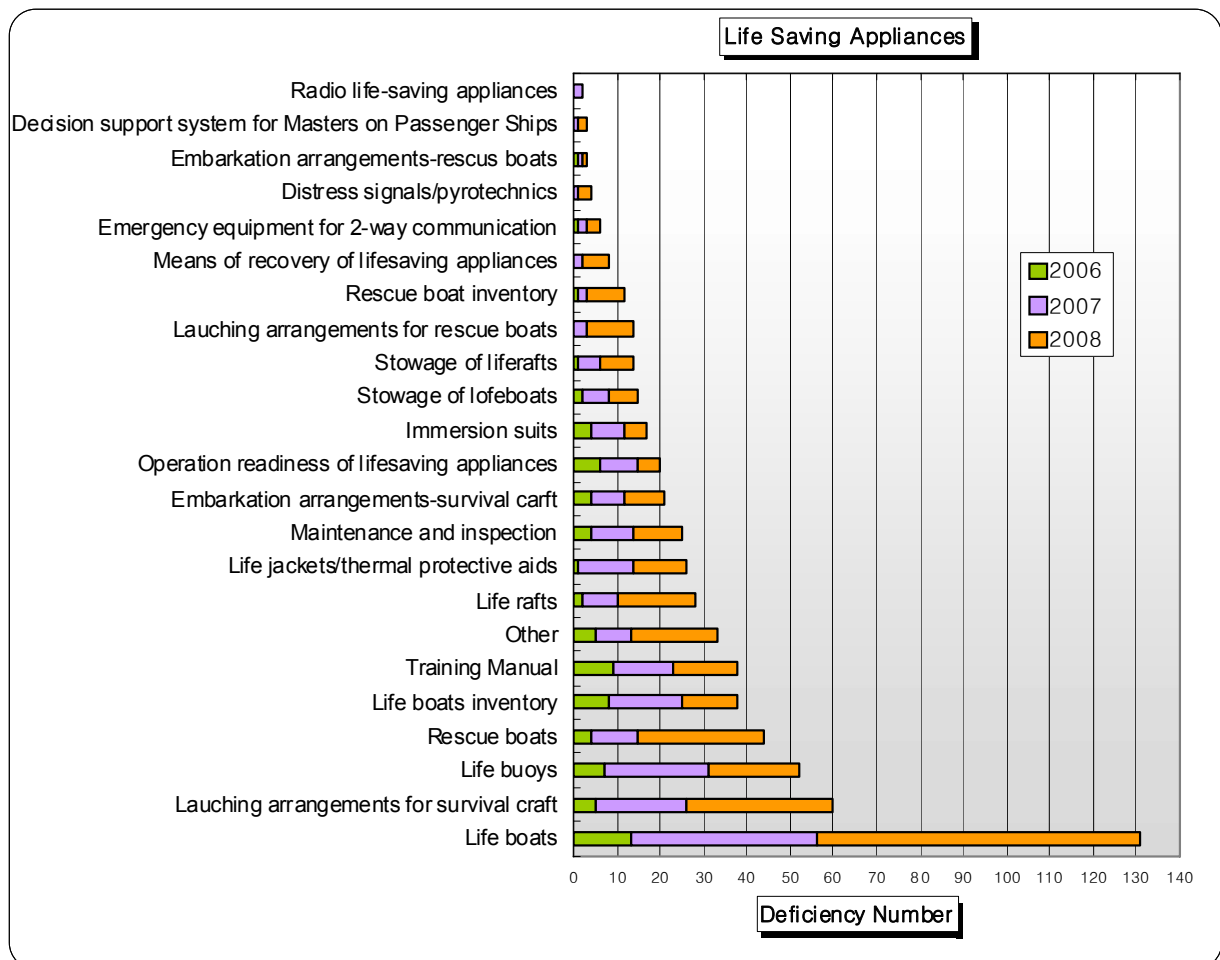


Fig. 27.3 Details of Safety of Navigation (Code 1500)

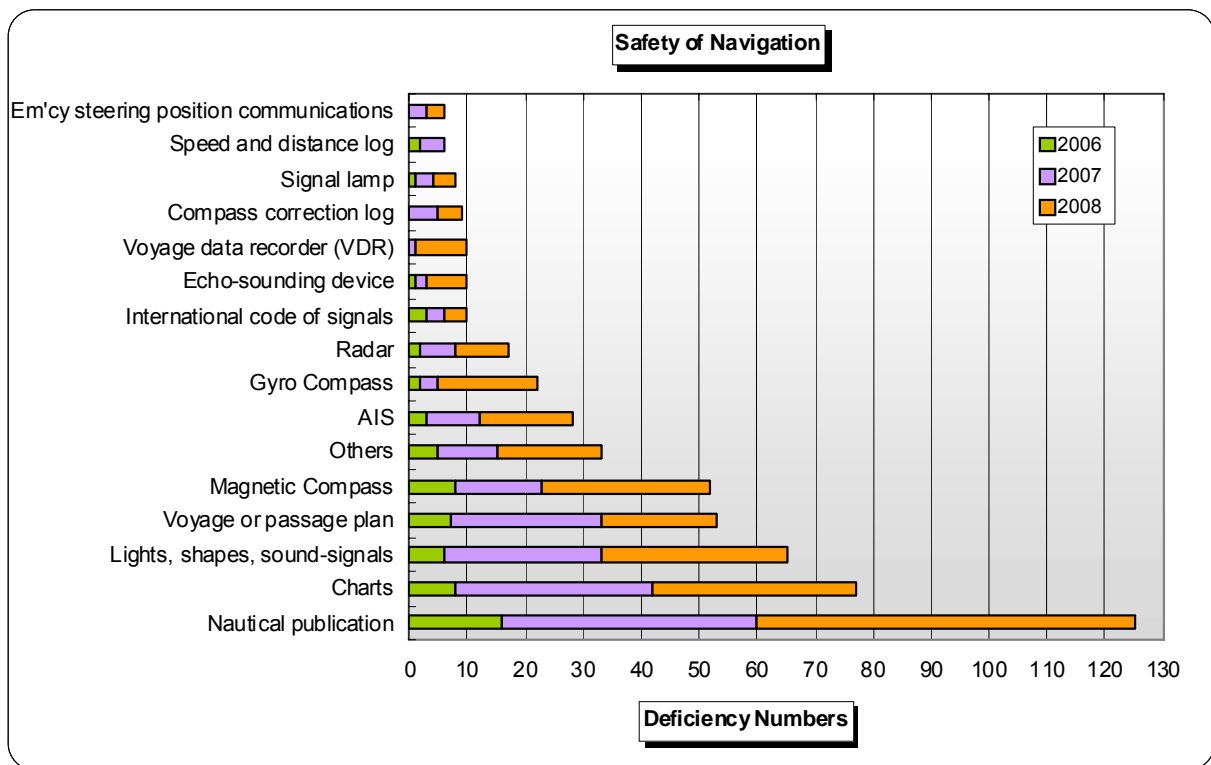


Fig. 27.4 Details of Safety in General (Hull) (Code 900)

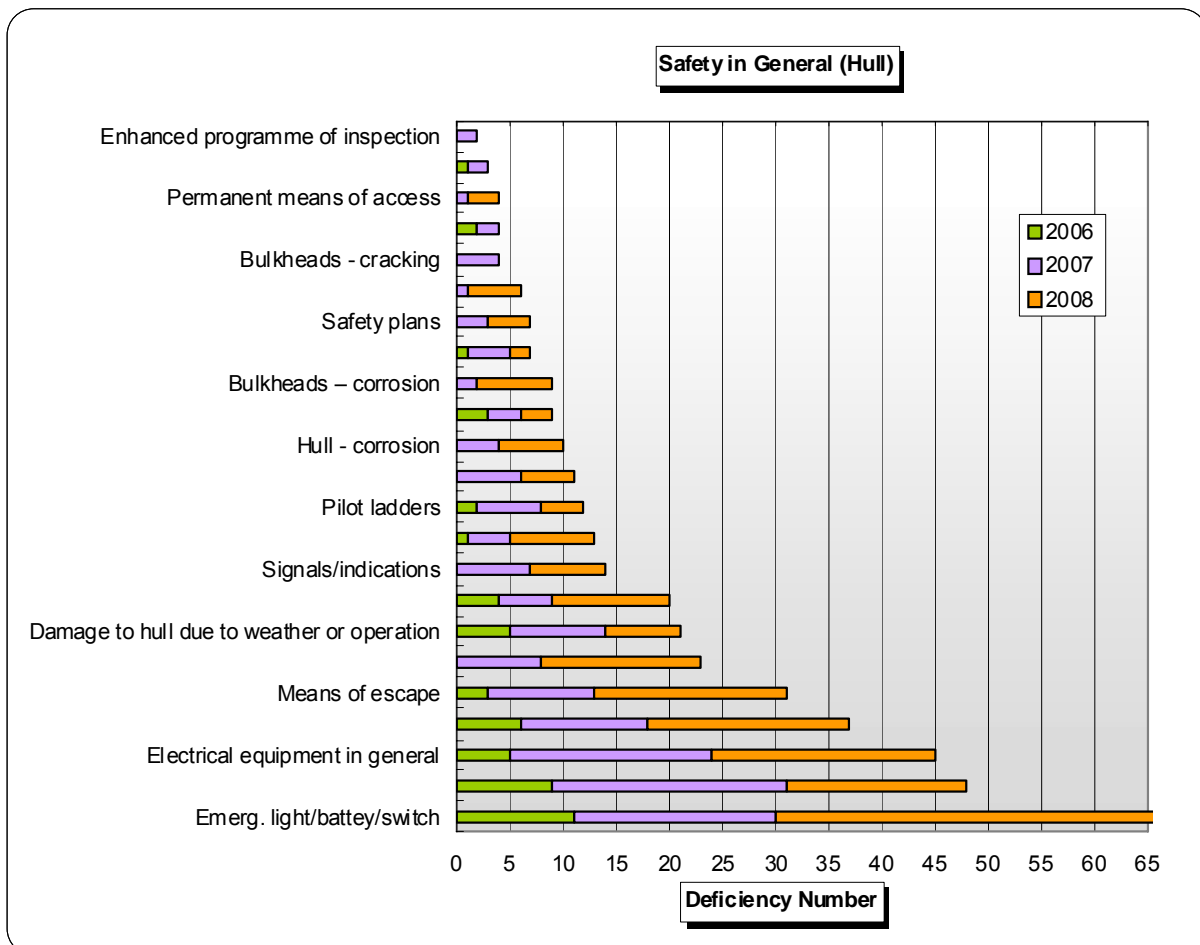


Fig. 27.5 Details of Propulsion and Aux. Machinery (Code1400)

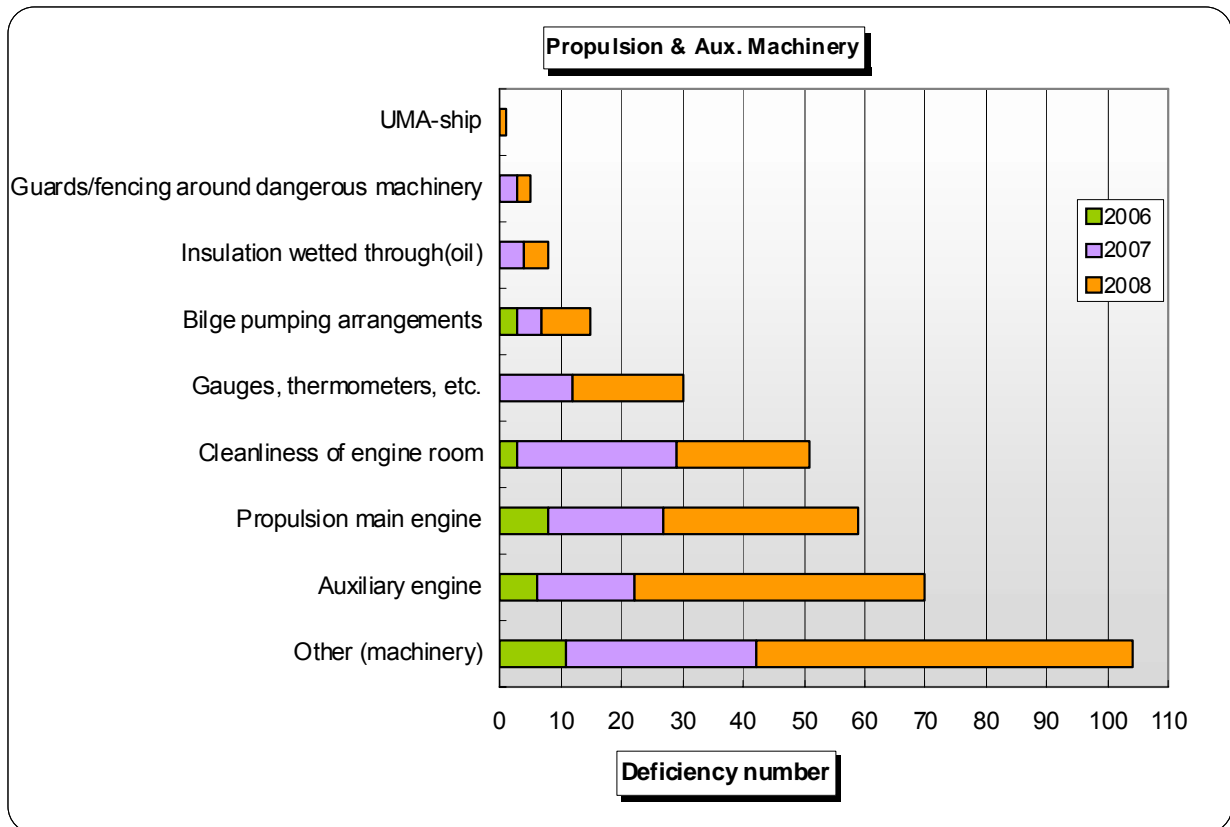


Fig. 27.6 Details of Safety in Load Lines (Code 1200)

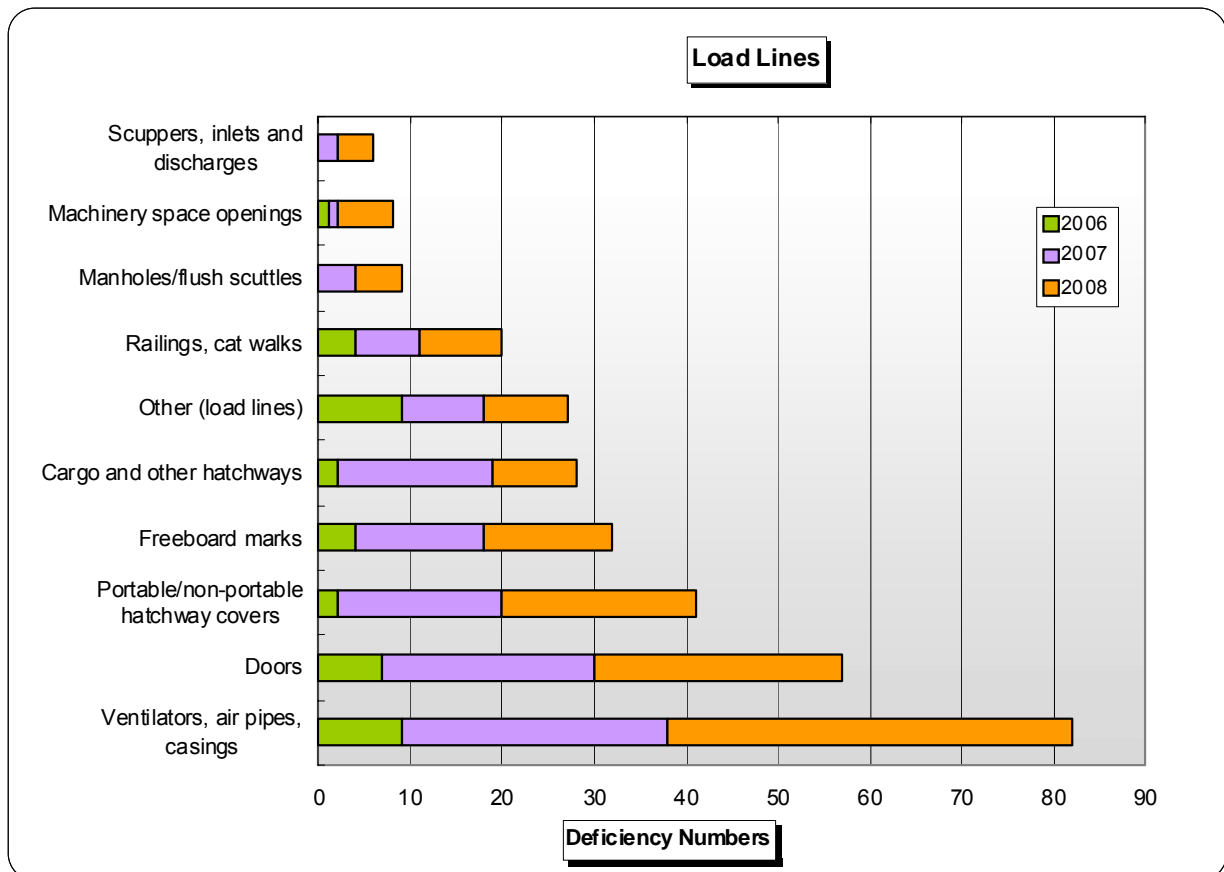


Fig. 27.7 ISM related deficiencies (Code 2500)

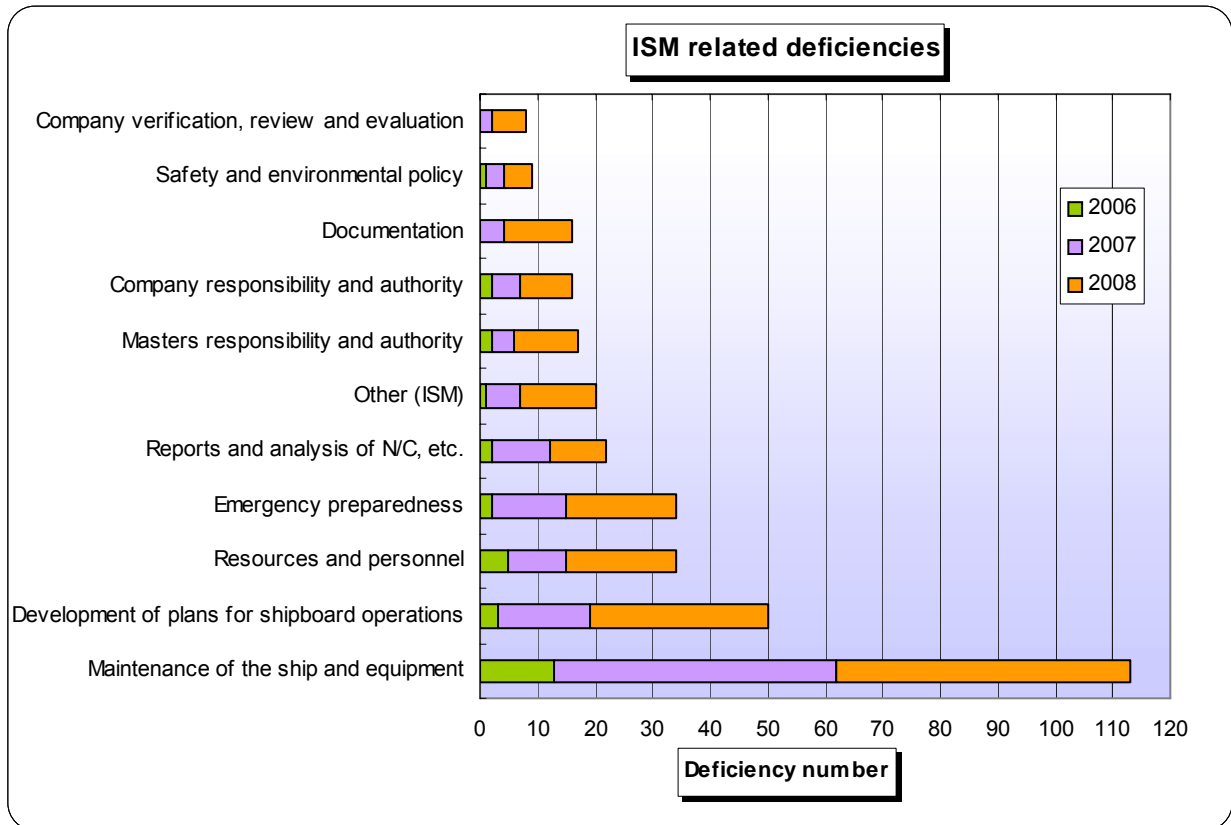


Fig. 27.8 Details of MARPOL Annex I (Code 1700)

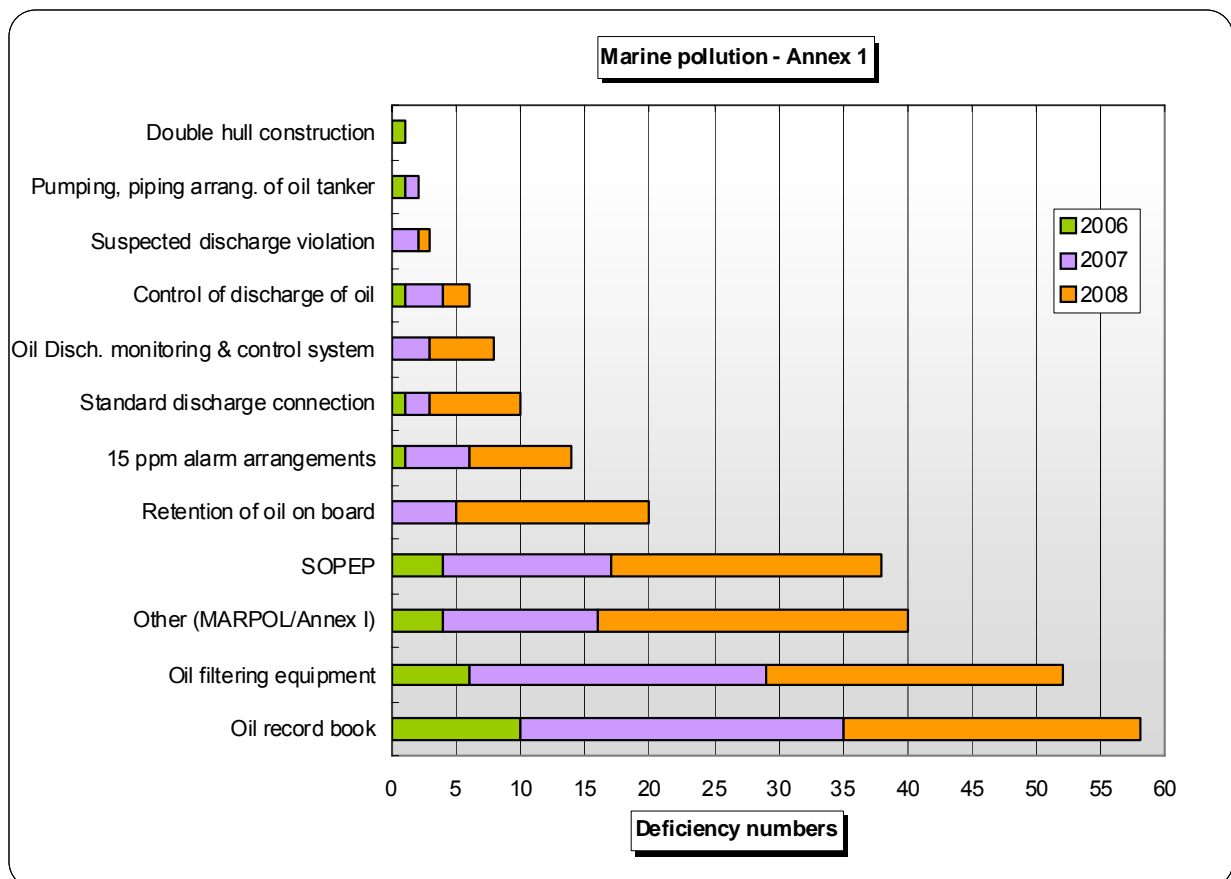


Fig. 27.9 Details SOLAS related Operational Deficiencies (Code 2000)

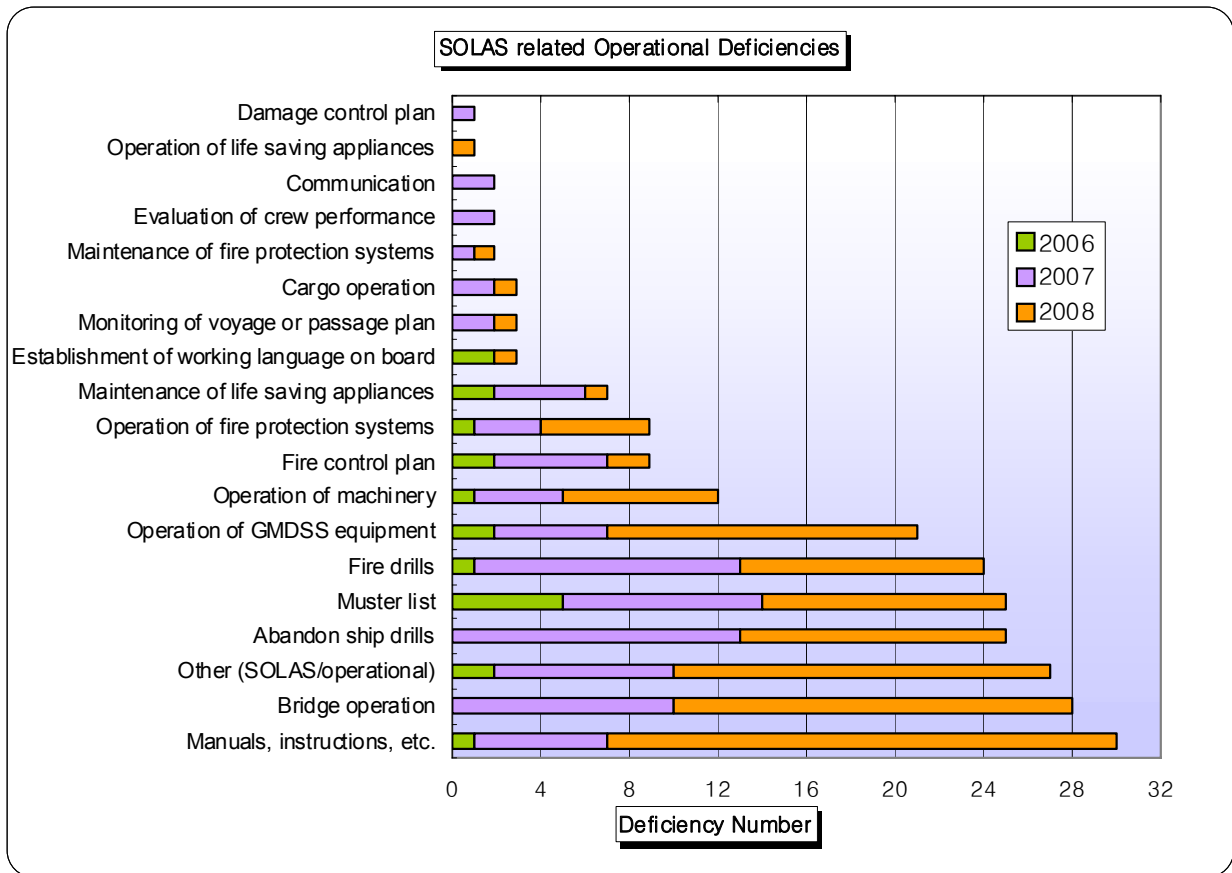
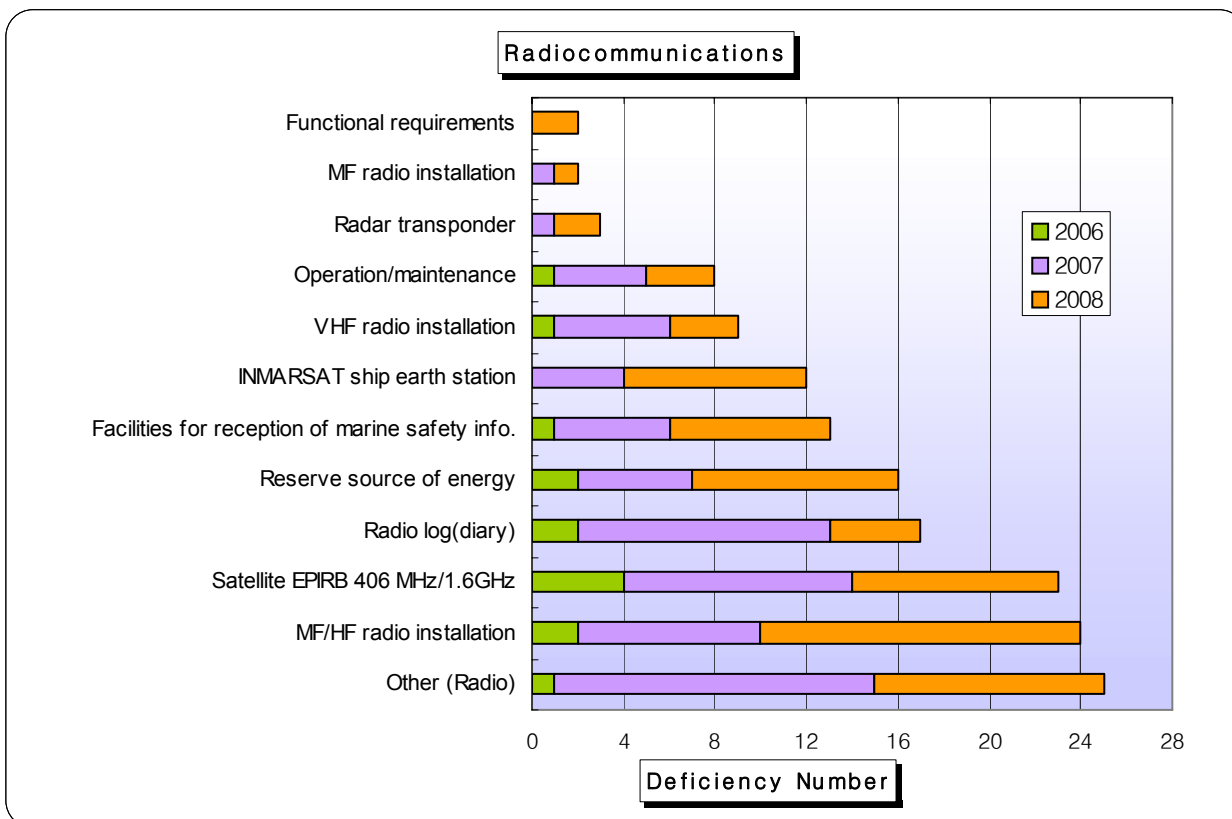


Fig. 27.10 Details of Radiocommunications (Code 1600)



## Detainable Deficiency Statistics by PSC regime

### 1. Tokyo MoU

Table 4.1 Tokyo MoU

Deficiency by Code	2006	2007	2008
Fire Safety Measures	18	18	38
Lifesaving Appliances	14	14	29
Load Lines	15	10	16
Stability, Structure and Related Equipment	10	10	17
MARPOL – Annex I	9	8	12
ISM Related Deficiencies	4	5	10
Radiocommunication	2	4	8
SOLAS Related Operational Deficiencies	3	2	8
Propulsion and Auxiliary Machinery	4	1	3
Safety of Navigation	2	3	1

### 2. Paris MoU

Table 4.2 Paris MoU

Deficiency by Code	2006	2007	2008
Fire Safety Measures	20	12	4
Lifesaving Appliances	11	7	3
ISM Related Deficiencies	4	9	3
Load Lines	3	8	0
SOLAS Related Operational Deficiencies	2	7	2
Stability, Structure and Related Equipment	6	3	1
Safety of Navigation	2	7	0
Propulsion and Auxiliary Machinery	4	4	0
Radiocommunication	0	6	1
MARPOL – Annex I	0	1	3

### 3. Indian MoU

Table 4.3 Indian MoU

Deficiency by Code	2006	2007	2008
Fire Safety Measures	5	17	4
Load Lines	1	5	4
Lifesaving Appliances	2	5	0
Propulsion and Auxiliary Machinery	1	5	1
Safety of Navigation	1	5	1
Stability, Structure and Related Equipment	0	1	4
ISM Related Deficiencies	0	1	4
MARPOL – Annex I	3	1	0
Radiocommunication	1	2	0
SOLAS Related Operational Deficiencies	0	1	0

**4. USCG (USA)**

Table 4.4 USCG

Deficiency by Code	2006	2007	2008
MARPOL – Annex I	0	6	1
ISM Related Deficiencies	0	5	0
Propulsion and Auxiliary Machinery	0	4	0
Lifesaving Appliances	1	0	3
Fire Safety Measures	1	1	0
Load Lines	1	1	0
SOLAS Related Operational Deficiencies	0	1	1

**5. AMSA (Australia)**

Table 4.5 AMSA

Detainable Deficiency by Code	2006	2007	2008
Lifesaving Appliances	2	3	5
Load Lines	4	5	0
Fire Safety Measures	1	2	4
Stability, Structure and Related Equipment	1	3	2
ISM Related Deficiencies	2	2	1
Radiocommunication	0	2	2
MARPOL – Annex I	0	2	1
SOLAS Related Operational Deficiencies	0	0	1

For more details on the PSC deficiencies, please visit “PSC” of the KR Homepage ([www.krs.co.kr](http://www.krs.co.kr)) where you may find KR PSC Deficiency Data search engine “PSC Deficiency Data” and the E-publication “Major PSC Deficiencies.”

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