

### 2011

# PORT STATE CONTROL REPORT



## **Australia**

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## **PREFACE**

Australia is one of the largest exporting nations in the world and growth in shipping is expected to continue well into the future. A smooth and efficiently operating shipping industry is therefore critical to the Australian economy. Shipping operations are subject to international rules and regulations. The Australian Maritime Safety Authority (AMSA), as the maritime safety administration of Australia, plays a key role in ensuring enforcement of these regulations.

AMSA operates an ongoing program of ship inspections in compliance with the International Maritime Organization (IMO) guidelines for port State control (PSC). This program is implemented by AMSA's inspectors who operate in a number of regional ports around Australia.

AMSA's ship inspection program undergoes continual improvement to incorporate amendments to IMO provisions and international conventions into Australian legislation. Port State control is similarly improved through regional cooperation. Australia is active within both the Asia-Pacific Memorandum of Understanding (MOU) and Indian Ocean MOU on port State control to develop and implement improved regional PSC standards.

Changes in the quality of ships trading to Australian ports is monitored by various databases managed by AMSA and the regional MOUs. In 2011, both the number and quality of low risk ships increased, as did the number of new vessels trading to Australian ports.

The outcomes of port State control activities are used by many stakeholders in the international shipping industry as a comparative indicator of the quality of individual flag States, classification societies, companies and ships. The prevention of pollution, groundings and other major incidents is a desirable outcome from a rigorous port State control program.

This report reviews the quality of ships trading to Australian ports throughout the period from 1 January 2011 to 31 December 2011. During this period, AMSA inspectors who are sometimes referred to as Port State Control Officers or PSCOs carried out 3002 PSC inspections and recorded 7487 deficiencies. In total, approximately 4900 foreign-flagged vessels made more than 23 786 visits to Australian ports in 2011 and the number of inspections decreased by 4.0 per cent, from a total of 3127 inspections in 2010.

The average number of deficiencies found per inspection increased from 2.4 in 2010 to 2.8 in 2011.

Throughout the 2011 reporting period, 275 vessels had deficiencies serious enough to warrant detention. The detention rate increased from 7.1 per cent in 2010 to 9.2 per cent in 2011.

The increase in both the number of deficiencies found per inspection and the detention rate are attributable to improved efficiency in targeting high risk vessels by AMSA's inspection resources.

The most significant number of deficiencies found in 2011 was in the area of fire safety measures, followed by the areas of safety of navigation, lifesaving appliances, SOLAS related operational deficiencies and load line defects.

International Safety Management (ISM) related issues remain a significant concern and AMSA continues to scrutinize vessels coming into Australia for weaknesses in their Safety Management Systems.

AMSA is committed to ensuring that only high-quality ships, operated by competent crews are permitted to trade in Australian waters. AMSA will continue to work closely with all stakeholders and international partners to ensure the achievement of this objective.

Graham Peachey Chief Executive Officer Australian Maritime Safety Authority July 2012

#### 10-year summary of inspections, detentions and deficiency rate

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total inspections	2842	2827	3201	3072	3080	2963	2795	2994	3127	3002
Total detentions	166	190	173	154	138	159	225	248	222	275
Detention %	5.8	6.7	5.4	5.0	4.5	5.4	8.1	8.3	7.1	9.2
Deficiencies/ inspection	2.7	2.4	2.3	2.6	2.9	2.5	3.3	3.0	2.4	2.8

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### INTRODUCTION

This report summarizes the port State control (PSC) activities of the Australian Maritime Safety Authority (AMSA) and the performance of various ship types, flag States and classification societies for the 2011 calendar year.

AMSA is a statutory authority established under the *Australian Maritime Safety Authority Act 1990* (the AMSA Act).

Two of AMSA's principal functions are:

- promoting maritime safety and the protection of the marine environment; and
- preventing and combating ship sourced pollution into the marine environment.

These principal functions are linked with, and implemented by, AMSA's flag and port State control regime.

Two key responsibilities for AMSA are:

- participating in the development and implementation of national and international maritime safety and environmental protection standards; and
- monitoring and enforcing operational standards for ships in Australian waters to promote seaworthiness, safety and pollution prevention.

Under the port State control regime the standard of ships trading to Australian ports is quantified using AMSA's well developed "Shipsys" software which also serves to assess the risk profile of foreign flag vessels targeted for PSC inspection.

Under the flag State control regime, AMSA has direct responsibility for *monitoring and enforcing* operational standards of Australian registered trading ships wherever they may be in the world. Australian-flagged vessels trading to overseas ports in 2011 were few in number and no Australian-flagged ships were detained in a foreign port.

AMSA also works with other flag State administrations who are members of the Asia-Pacific Memorandum of Understanding on Port State Control (also referred to as the Tokyo MOU or TMOU) and the Indian Ocean Memorandum of Understanding (IOMOU) on PSC.

AMSA shares PSC data with both MOUs in addition to participating and leading in policy development to ensure consistent quality in the application of PSC guidelines.

AMSA provides PSC-related information on its Port State Control page on its website and linked fact sheet *Port State Control In Australia*. The following is available from the web site:

- monthly results of all PSC inspection related ship detentions;
- information on PSC and PSC activities; and
- information on current trends and issues.

This information can be found at: www.amsa.gov.au/Shipping\_Safety/Port\_State\_Control.

#### Flag State inspections in Australia

AMSA inspectors conduct flag State control (FSC) inspections on board Australian-flagged trading vessels to ensure they comply with the relevant domestic and international convention requirements.

AMSA has oversight of Australian-flagged vessels for the International Safety Management (ISM) Code. The auditing and certification functions under the International Ships and Port Security Code (ISPS Code) lie with the Office of Transport Security (OTS) within the Department of Infrastructure and Transport.

Given the international nature of the shipping industry, Australian flag requirements for flag State inspections are closely aligned with International Convention requirements. Flag State inspections are therefore strongly aligned with the requirements for port State inspections.

If, in the course of a FSC inspection a deficiency warranting detention is found, an investigation into the root cause of the non-compliance is initiated.

If the detainable deficiency is ISM related an AMSA ISM auditor will conduct an audit to determine what may have caused the Safety Management System (SMS) of the company or the vessel to be non-compliant. Such a detention may also result in an Occupational Health and Safety (OHS) Audit under the Occupational Health and Safety (Maritime Industry) Act 1993 if the circumstances indicate that there are issues with workplace safety.

Australian-flagged vessels and vessels declared under either section 8A or section 8AA of the *Navigation Act 1912* are subject to the *Occupational Health and Safety (Maritime Industry) Act 1993*. These vessels undergo regular OHS audits to ensure compliance. Audits are generally undertaken on an annual basis, but more frequent inspections and/or audits may be undertaken where a need is identified.

For statutory survey and certification of Australian vessels, AMSA has delegated the responsibility to nine Classification Societies (also known as Recognised Organisations or ROs) through agreements made in accordance with IMO Assembly Resolution A.739 (18). These Recognised Organisations are identified in Marine Order 1 – Administration, which can be accessed from the AMSA website.

A total of 84 FSC inspections were carried out on board 62 Australian-flagged vessels in 2011. During these inspections, 405 deficiencies were recorded, of which 6 were serious enough to warrant detention of the three vessels concerned. This represents an increase in the number of deficiencies per inspection from 4.1 in 2010, to 4.8 in 2011.

The number of FSC detentions increased from 2 in 2010 to 6 in 2011. The FSC detention rate in 2011 remained lower than the PSC detention rate, 7.1 per cent for FSC versus 9.2 per cent for PSC.

These results reflect the fact that AMSA closely monitors Australian-flagged vessels and company performance, especially those which continue to perform poorly. The system of targeting for Australian-flagged ships takes into account ship and company FSC history, the outcome of OHS audits and incidents, as well as unscheduled inspections and SMS audits.

## Port State Control – Australian flagged ships (overseas)

The performance of Australian flagged ships subject to PSC inspections at overseas ports is closely monitored by AMSA as another measure of compliance. Australian flagged ships inspected in overseas ports continue to have low numbers of deficiencies.

In 2011, seven PSC inspections were carried out on seven Australian-flagged ships overseas. These occurred in China (one), New Zealand (two) and Japan (four). These inspections resulted in a total of six minor deficiencies on two of the vessels and no ships were detained following inspection.

By 1 July 2012 the Australian International Shipping Register will be introduced. It is anticipated the number of Australian flagged ships trading to overseas ports may increase progressively from the end of 2012, although it is unlikely the future Australian flagged fleet size will be considered large by international standards for the foreseeable future.

#### **Appeals and review processes**

Vessel owners, operators, ROs and flag States all have the right to appeal against inspection outcomes. This can be achieved through a number of different means. The master of an inspected vessel is advised of these rights upon completion of the inspection.

Masters are instructed that the initial avenue for appeal is through AMSA's Manager, Ship Inspection and Registration. This involves a full examination of all information provided by the appellant and feedback from the attending AMSA Marine Surveyor to determine the merits of the case being put forward. If an appellant is unsuccessful, further appeal processes are available either by the flag State to the Detention Review Panel of the TMOU or IOMOU, or finally to the Australian Administrative Appeals Tribunal (AAT).

During 2011, owners, operators, ROs and flag States appealed a number of PSC deficiencies and detentions directly to AMSA all of which were thoroughly investigated and responded to accordingly. In total, 44 detention appeals were received for 32 vessels, along with 10 appeals for RO responsibility. A full review of all relevant information was carried out in each case with two detentions subsequently rescinded and RO responsibility withdrawn in five cases. In the remainder of cases, the original decisions of the AMSA Inspectors were found appropriate and the appeals rejected accordingly.

One appeal was made to the Australian Administrative Appeals Tribunal in 2011 which remains ongoing. There were no appeals of AMSA detentions made to the Detention Review Panel of either the TMOU or IOMOU during 2011.

#### **Regional cooperation**

IMO Assembly Resolution A.682(17) Regional Cooperation in the Control of Ships and Discharges was developed and adopted in recognition that regional cooperation in PSC would be more effective than States acting in isolation. Regional cooperation allows member States to share information relating to substandard ships, inspection results and the identification of emerging issues or areas of concern. This was also reflected in training seminars, training programs and concentrated inspection campaigns (CICs).

AMSA is a dedicated participant in cooperative activities, such as 'expert missions' to regional countries and participating in Port State Control Officer (PSCO) exchange programs. During 2011, PSCOs from member states of both the TMOU and IOMOU visited various AMSA offices and were given first-hand experience on how AMSA operates.

Australia is actively engaged with the Flag State Implementation (FSI) Sub-Committee of the IMO. This Sub-Committee is a significant forum for PSC. AMSA is also involved in a number of technical cooperation programs on maritime matters that are run separately to the programs of the TMOU, IOMOU and IMO.

For detailed information on the activities of the TMOU and IOMOU see their websites at www.iomou.org and www.tokyo-mou.org.

#### AMSA's ship inspection database - "Shipsys"

AMSA has developed a complex software package to aid Inspectors/PSCOs in identifying and targeting ships for PSC inspections. The Shipsys database contains data on a large number of vessels received from a variety of sources. This information includes the general particulars of the vessel and its PSC inspection history from within the TMOU region.

In addition to storing historical data for providing background information about a ship, the Shipsys database calculates a numerical 'risk factor' for ships arriving in Australian ports. The risk factor represents the probability of PSC detention presented as a percentage (probability of detention). The use of the Shipsys database enables AMSA to target high risk ships and to allocate PSCO resources in the most efficient and effective manner. This risk calculation uses multiple criteria to categorise vessels into 'priority' groups, each of which has a specific target inspection rate.

The inspection rate targets are shown in Table 1.

Table 1 - Inspection rate targets

Priority group	Probability of detention (Risk factor)	Target inspection rate
Priority 1	More than 5%	80%
Priority 2	4% to 5%	60%
Priority 3	2% to 3%	40%
Priority 4	Less than 1%	20%

Shipsys is designed as a tool to compliment the AMSA Inspectors' / PSCOs' professional judgment when deciding which ships should be inspected and the level of inspection required. An AMSA PSCO can also refer to other international databases, including the Asia Pacific Computerized Information System (APCIS) and "EQUASIS", when making these decisions. More information on Shipsys is available on the *Port State Control in Australia* fact sheet.

In 2011 a review of the risk profile of ships trading in Australian ports indicated that larger numbers of lower risk ships visited Australian ports. As these vessels had low risk profiles, fewer inspections were conducted in line with the target inspection rate in Table 1 above. This positive trend has increased over the past three years and is viewed as an improvement in the quality of ships trading to Australian ports as measured by the AMSA Shipsys database.

# INSPECTION RESULTS IN 2011

#### **Shipping industry activity**

The number of foreign-flagged vessels that traded to Australian ports increased marginally in 2011. Some sectors of the shipping industry such as tankers and container ships showed larger increases, whereas livestock, general cargo and vehicle carrier numbers reduced in 2011. Other ship types such as Offshore Supply Vessels (OSVs) showed an increase in vessel numbers in 2011.

Foreign-flagged ship arrivals grew from 23 168 in 2010 to 23 786 in 2011. This is an increase of 2.7 per cent and is consistent with the average annual rate of growth in arrivals since 2007. The number of individual ships making port calls grew by 6.4 per cent from 4605 in 2010 to 4899 in 2011.

The size of ships trading to Australian ports also grew on average by one per cent from 42 184 GT to 42 624 GT.

Bulk carriers accounted for nearly 63 per cent of the foreign ship fleet and made 43 per cent of all foreign ship port visits in 2011. The second most common vessel type, container ships, represented just 6.4 per cent of the foreign fleet in 2011, but accounted for 18 per cent of port visits. These two, together with general cargo ships, oil tankers, vehicle carriers and chemical tankers, made more than 88 per cent of the foreign ship port visits and represented 89 per cent of the foreign ship fleet in 2011. Six flag States made up nearly half of the foreign fleet in 2011 - Panama (22.1 per cent), Hong Kong (7.4 per cent), Liberia (6.2 per cent), Singapore (5.7 per cent), Marshall Islands (3.8 per cent) and Bahamas (2.6 per cent) – all of these are regarded as Open Registers.

There was a somewhat higher rate of "churn" than in previous years, as a little over 2000 (or 41 per cent) of the foreign flagged ships that visited Australia in 2011 did not visit in 2010. This is probably due to the greater numbers of new ships delivered in recent years following the "bubble" in new build orders during the commodities boom of the last decade. The introduction of these new or newer ships in 2011 has resulted in a progress drop in the average age of the foreign-flagged fleet coming to Australia – from 10.1 years in 2007, to 9.1 years in 2010 and 8.6 years in 2011. The 1722 ships from 2010 which did not return in 2011 would have had an average age of 10.8 years in 2011, whereas the 2016 ships that were "new" to Australian trades in 2011 had an average age of 7 years.

This lower average ship age also represents an improved risk profile for the foreign-flagged fleet, as statistical analysis commissioned by AMSA found that ship age is the most important of several factors in determining the probability of a ship being detained.

A review of the risk factor profile for foreign-flagged ships trading in Australian ports between 2009 and 2011 shows a clear indication that the number of low risk of detention ships (less than one per cent) increased from approximately 620 in 2009, to 800 in 2010 and 1100 ships in 2011. Statistically, 22.5 per cent of foreign-flagged ships trading to an Australian port in 2011 had a less than one per cent risk of detention as shown in Figure 1. It is hoped the trend of reducing risk profiles of ships trading in Australian ports will continue in the years to come.

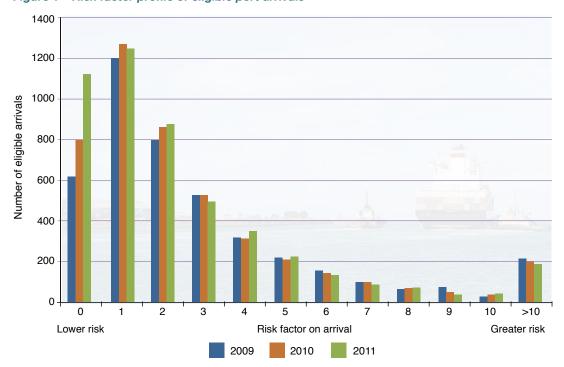


Figure 1 – Risk factor profile of eligible port arrivals

Melbourne and Brisbane are the busiest Australian ports in terms of ship visit numbers, although the major iron ore and coal export ports take the lead in cargo volumes as the ships visiting these ports are much larger than the typical container, general cargo, oil tanker and other common ship types visiting the capital city ports. The 12 busiest Australian ports accounted for 70 per cent of national ship arrivals.

Growth rates at Australia's main capital city general cargo ports were relatively static though, with the number of foreign ship arrivals in 2011 at these ports little changed from 2007 levels. In contrast, there have been strong rates of growth at the major commodity export ports. Foreign ship visits to Port Hedland totalled nearly 1600 in 2011, representing an average annual growth rate of 15.5 per cent since 2007. Similarly, Port Kembla experienced average annual growth of 12.9 per cent and Port Walcott 11.1 per cent annual growth over this time.

Overall, the foreign-flagged fleet serving Australian trades in 2011 showed a healthy growth and more importantly, had a reduced risk of being unseaworthy.

Table 2 indicates that in 2011 there has been an increase in the number of port visits for bulk carriers, container ships and oil tankers compared to 2010. Overall there was a 31 per cent reduction in livestock carrier visits in 2011 which may be attributed to the recent addition of some larger capacity vessels in the livestock trade.

Table 2 – Trends of ship visits in 2011 compared to 2010

Item	2010	2011	Change
Bulk carrier	9937	10255	3.2%
Chemical tanker	1150	1147	-0.3%
Container ship	3963	4311	8.8%
Gas carrier	582	550	-5.5%
General cargo/multi-purpose ship	2250	2070	-8.0%
Livestock carrier	332	229	-31.0%
Oil tanker	1604	1860	16.0%
Vehicle carrier	1527	1385	-9.3%
Other Ship Types	1823	1979	8.6%
Average Gross Tonnage	42184	42624	1.0%
Foreign Flag port visits	23165	23786	2.7%
Individual Ships	4605	4899	6.4%
Inspection rate (%)	59.4	54.3	-8.6%
Total inspections	3127	3002	-4.0%

From Figure 1 it is clearly evident that the number of vessels with risk factors of less than one per cent arriving in 2011 was higher than in 2010, and significantly higher than 2009.

There was a slight increase in the number of deficiencies recorded per inspection of ships that arrived in Australia during 2011, as illustrated in Table 3 below. The number of deficiencies identified per inspection carried out on 'Priority 1' group ships increased from 4.4 to 5.3, while the deficiency rates for inspections on other priority groups also shows an upward trend. In 2011 a total of 8406 deficiencies were found compared to the 7487 deficiencies found in 2010.

While the number of deficiencies found in 2011 increased compared to 2010 the fact that higher priority ships have, on average, consistently attracted more deficiencies per inspection than lower priority ships is considered to be validation of the statistical assumptions used to underpin AMSA's targeting system.

Table 3 - Number of deficiencies according to a vessel's risk factor

Risk Factor	Priority Group	2010 Deficiencies	2010 Deficiencies/ Inspections	2011 Deficiencies	2011 Deficiencies/ Inspections
>=6	Priority 1	2426	4.4	2599	5.3
4 or 5	Priority 2	1405	3.0	1439	3.3
2 or 3	Priority 3	1978	2.1	2240	2.5
0 or 1	Priority 4	1678	1.4	2128	1.8
Totals		7487	2.4	8406	2.8

From Table 4 it can be seen that the overall inspection rate of foreign-flagged vessels visiting Australian ports in 2011 was 57 per cent, compared with 63 per cent in 2010. However, as also noted in table 4, this equated to a reduction of just 97 inspections over the year (3.5 per cent reduction on 2010). This reduction in the number of ships inspected needs to be considered in light of the increased total number of deficiencies and detention rate for 2011, which is evidence that the inspection effort is being effectively targeted at higher risk ships.

Table 4 – Unique foreign flag ships - by priority level

Priority	Ship arrivals		Eligible	Eligible ships		Ships inspected		Inspection rate		
Group	2011	2010	2011	2010	2011	2010	2011	2010		
Priority 1	529	562	478	486	399	457	83%	94.0%		
Priority 2	503	500	477	472	367	383	77%	81.1%		
Priority 3	1259	1285	1209	1203	790	799	65%	66.4%		
Priority 4	2597	2251	2493	2157	1081	1095	43%	50.8%		
Totals	4899	4598	4657	4318	2637	2734	57%	63.3%		

#### **Inspections**

A ship becomes eligible for inspection every six months. PSC inspections are carried out based on guidance provided in IMO Assembly Resolution A.787(19)<sup>1</sup>, as amended, and in procedures outlined under the TMOU and IOMOU. In 2011, AMSA Inspectors carried out 3002 initial PSC inspections on 2637 foreign-flagged ships at 52 Australian ports in conformance with these guidelines and AMSA's internal instructions and training regime. As a result of these initial inspections, AMSA Inspectors carried out 1179 follow-up inspections of 890 individual ships to verify corrective actions had been taken.

Table 5 provides a breakdown over a five-year period of the number of PSC inspections carried out at each Australian port. Approximately 80 per cent of PSC inspections are undertaken in 12 of the 68 ports listed in Table 5. The largest number of PSC inspections in 2011 were undertaken in the port of Newcastle.

<sup>&</sup>lt;sup>1</sup>IMO Assembly Resolution A.787(19) was superseded by IMO Assembly Resolution A.1052(27) which was adopted on 30 November 2011.

Table 5 – Total ships inspected by port of inspection

Port	2007	2008	2009	2010	2011
Abbot Point, QLD	15	5	12	9	2
Albany, WA	22	24	20	14	8
Ardrossan, SA	1	2	2	1	0
Barrow Island, WA	0	0	0	1	0
Barry Beach, VIC	0	0	0	0	1
Beauty Point, TAS	0	0	0	1	0
Bell Bay, TAS	31	40	33	42	50
Bing Bong, NT	0	0	0	1	0
Brisbane, QLD	226	251	230	244	209
Broome, WA	4	1	2	3	6
Bunbury, WA	66	54	59	55	40
Bundaberg, QLD	0	1	0	0	1
Burnie, TAS	22	17	12	14	16
Cairns, QLD	24	24	19	20	14
Cape Cuvier, WA	0	0	0	2	0
Cape Flattery, QLD	1	1	0	2	1
Cape Preston, WA	0	0	0	1	0
Christmas Island	4	2	0	0	0
Dampier, WA	241	219	240	250	270
Darwin, NT	101	124	151	133	61
Devonport, TAS	3	2	3	6	10
Eden, NSW	0	1	0	1	2
Esperance, WA	22	13	16	8	3
Exmouth, WA	0	0	2	0	0
Fremantle, WA	128	123	126	136	120
Geelong, VIC	58	36	43	42	66
Geraldton, WA	49	22	50	39	15
Gladstone, QLD	237	206	191	242	222
Gove Harbour, NT	19	10	6	13	4
Griffin Venture (oil terminal), WA	0	0	1	0	0
Groote Eylandt, NT	12	7	5	4	2
Hay Point, QLD	322	331	308	339	198
Hobart, TAS	5	8	17	12	7
Karumba, QLD	1	2	1	0	0
Koolan Island, WA	1	0	0	0	0
Kurnell, NSW	13	12	8	11	17
Kwinana, WA	169	130	192	179	159
Lucinda, QLD	2	3	5	3	0
Mackay, QLD	32	21	16	27	26
Melbourne, VIC	156	134	175	146	194
Mourilyan, QLD	11	7	7	8	1

Continued

Table 5 – Total ships inspected by port of inspection (continued)

Newcastle, NSW	264	286	343	293	360
Nganhurra, WA	0	1	0	1	1
Onslow, WA	1	1	2	1	0
Point Wilson, VIC	1	0	0	0	0
Port Adelaide, SA	48	36	66	87	104
Port Alma, QLD	9	11	16	7	6
Port Bonython, SA	0	1	2	1	0
Port Botany, NSW	137	157	128	179	193
Port Giles, SA	1	2	1	6	6
Port Hedland, WA	114	124	137	189	227
Port Kembla, NSW	98	89	116	115	108
Port Latta, TAS	2	2	2	3	2
Port Lincoln, SA	2	7	4	4	12
Port Pirie, SA	2	1	5	2	2
Port Walcott, WA	40	26	35	32	51
Portland, VIC	18	14	13	8	17
Spring Bay, TAS	7	6	6	3	4
Sydney, NSW	90	80	37	46	49
Thevenard, SA	1	1	1	4	1
Townsville, QLD	63	88	97	110	104
Useless Loop, WA	13	2	6	6	2
Wallaroo, SA	4	3	9	9	15
Weipa, QLD	32	14	1	7	7
Westernport, VIC	8	3	11	0	2
Whyalla, SA	7	7	2	4	3
Woollybutt (Oil facility), WA	1	0	0	1	1
Wyndham, WA	0	0	2	0	0
Other	2	0	0	0	0
Totals	2963	2795	2994	3127	3002

Table 6 provides a similar five-year breakdown of the number of vessels inspected against each flag State. The table does not reflect any significant change in inspections by flag State over the last five years.

The flag State with the largest number of ships (approximately 30 per cent) inspected by AMSA was Panama. Over 880 Panamanian ships were inspected in 2011 representing a decrease from the 973 inspected in 2010. Ships from Hong Kong, Liberia and Singapore represented a further 30 per cent of ships inspected in 2011.

Table 6 – Total ships inspected by flag State

Flag	2007	2008	2009	2010	2011
Antigua and Barbuda	35	59	60	75	89
Argentina	0	0	0	1	0
Bahamas	159	98	120	106	109
Bangladesh	0	0	0	1	0
Barbados	3	3	3	7	4
Belgium	12	10	9	12	14
Belize	4	4	3	2	2
Bermuda	13	13	18	22	17
Bulgaria	0	0	0	1	0
Cayman Islands	17	14	16	18	22
Chile	1	1	0	0	0
China	57	56	72	76	60
Cook Islands	0	3	5	7	3
Croatia	8	8	10	8	7
Curaçao	6	3	4	2	2
Cyprus	98	97	96	106	87
Denmark	23	20	17	10	9
Dominica	8	2	7	2	4
Egypt	2	4	4	3	5
Fiji	0	0	0	0	1
France	6	8	8	11	5
Germany	27	18	29	21	17
Gibraltar	2	3	12	14	8
Greece	87	68	66	80	64
Hong Kong	247	252	282	298	291
India	42	22	29	23	22
Indonesia	4	7	3	11	8
Iran	1	3	1	0	0
Ireland	0	0	0	0	1
Isle of Man	47	47	39	40	38
Italy	35	33	41	50	41
Japan	42	30	41	34	53
Korea, Republic of	89	83	84	86	85
Kuwait	5	6	6	4	5
Liberia	205	203	216	270	260
Libyan Arab Jamahiriya	0	0	0	2	0
Lithuania	0	0	0	1	0
Luxembourg	4	2	3	2	6
Malaysia	19	7	8	16	19
Malta	91	91	104	108	105
Marshall Islands	115	112	115	146	166
Mauritius	0	0	1	0	0
Myanmar	4	0	0	0	0

Continued

Table 6 – Total ships inspected by flag State (continued)

Flag	2007	2008	2009	2010	2011
Netherlands	50	39	36	38	39
New Zealand	4	2	2	2	2
Norway	53	39	42	32	28
Pakistan	0	0	0	0	1
Panama	966	951	940	973	882
Papua New Guinea	14	16	16	11	10
Philippines	48	41	47	43	32
Portugal	1	0	1	2	1
Russian Federation	3	6	4	1	1
Saint Vincent and the Grenadines	9	4	6	5	1
Samoa	2	2	1	1	2
Singapore	167	194	213	197	237
Sri Lanka	0	0	0	0	1
Sweden	10	9	11	10	10
Switzerland	5	3	9	7	6
Taiwan	15	19	17	16	16
Thailand	13	9	25	15	17
Tonga	7	6	9	4	4
Trinidad and Tobago	1	0	0	0	0
Turkey	9	6	12	15	14
Tuvalu	0	1	0	0	0
United Arab Emirates	1	1	0	0	0
United Kingdom	32	27	35	42	40
United States	1	1	0	1	5
Vanuatu	24	21	26	28	16
Viet Nam	10	8	10	8	8
All foreign ships	2963	2795	2994	3127	3002

Figure 2 represents the inspections by flag State for vessels having been subjected to more than 25 inspections during 2011. Flag States that have less than 25 inspections in a year are not considered to be statistically significant.

Figure 2 – Distribution of inspections by flag State for those with more than 25 inspections

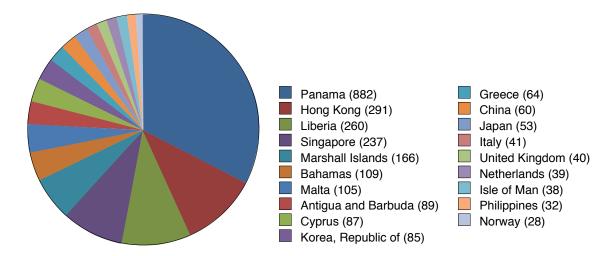


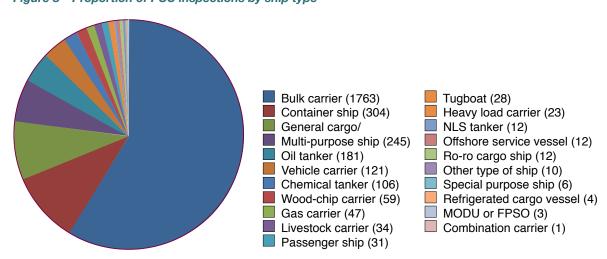
Table 7 shows the number of inspections compared to vessel type, presented over a five-year period.

Table 7 - Total ships inspected by ship type

Ship type	2007	2008	2009	2010	2011
Bulk carrier	1714	1596	1747	1865	1763
Chemical tanker	99	107	119	107	106
Combination carrier	7	4	9	1	1
Container ship	270	279	271	279	304
Factory ship	1	0	0	0	0
Gas carrier	57	40	46	44	47
General cargo/multi-purpose ship	204	199	227	237	245
Heavy load carrier	15	15	25	23	23
High speed passenger craft	1	1	0	1	0
Livestock carrier	38	39	45	39	34
MODU or FPSO	4	5	4	6	3
NLS tanker	0	4	6	7	12
Offshore service vessel	20	21	29	19	12
Oil tanker	213	163	168	200	181
Passenger ship	29	24	29	29	31
Refrigerated cargo vessel	4	3	1	2	4
Ro-ro cargo ship	7	12	9	11	12
Ro-ro passenger ship	0	0	1	1	0
Special purpose ship	11	14	12	9	6
Tugboat	24	31	42	29	28
Vehicle carrier	145	145	120	146	121
Wood-chip carrier	83	80	66	57	59
Other types of ship	17	13	18	15	10
Totals	2963	2795	2994	3127	3002

From Table 7 and figure 3, it is clear that bulk carriers continue to be the most inspected vessel type with approximately 60 per cent of all PSC inspections.

Figure 3 – Proportion of PSC inspections by ship type



#### **Deficiencies**

AMSA Inspectors will issue a ship with a deficiency if, during an inspection, they determine that either the condition of a ship, its equipment, or performance of the shipboard personnel is found not in compliance with the requirements of the relevant IMO Conventions related to safety or pollution prevention or where hazards to the health or safety of the crew are deemed to exist.

The IMO Resolution on Port State control, Res. A.787(19), as amended, defines a deficiency as 'a condition found not to be in compliance with the requirements of the relevant convention'.

AMSA Inspectors use their maritime experience to decide upon an appropriate timeframe for the crew to rectify a deficiency. Depending on how serious the AMSA Inspectors determines the deficiency to be, they may require rectification before the vessel departs, at the next port, within 14 days, within three months, or they may specify other conditions for rectification. A serious deficiency, deemed to pose an immediate threat to the ship, crew or environment, will result in immediate detention of the vessel. AMSA will detain the ship irrespective of its scheduled departure time in accordance with the IMO Resolution on PSC.

During 2011, AMSA Inspectors recorded a total of 8405 deficiencies. This resulted in a deficiency rate of 2.8 per inspection, which is an increase compared to 2010 (2.4 deficiencies per inspection).

Deficiencies are categorised into the following groups used to identify key areas of non-compliance – structural/equipment, operational, ISM and human factors. Table 8 shows the number of deficiencies for each of these broad groups per vessel type and the number of inspections for each vessel type. The table also compares group deficiency rates to those of 2010, as would be expected with an increase in the overall number of deficiencies, there was an increase in the deficiency rate in all categories in 2011.

Table 8 - Deficiency category by inspection number and ship type

		Deficiency (	Categories		PSC
Ship Type	Structural/ Equipment	Operational	Human Factor	ISM	Inspections
Bulk carrier	2326	1537	923	369	1763
Container ship	396	215	114	88	304
General cargo/multi-purpose ship	446	262	145	57	245
Oil tanker	98	56	23	7	181
Vehicle carrier	55	63	36	25	121
Chemical tanker	91	42	26	10	106
Wood-chip carrier	101	53	31	19	59
Gas carrier	24	12	7	7	47
Livestock carrier	144	51	33	18	34
Passenger ship	38	10	11	5	31
Tugboat	75	50	12	6	28
Heavy load carrier	24	17	16	5	23
NLS tanker	3	5	1	1	12
Offshore service vessel	7	8	1	0	12
Ro-ro cargo ship	38	25	6	4	12
Other types of ship	13	15	3	2	10
Special purpose ship	7	14	1	3	6
Refrigerated cargo vessel	9	8	10	3	4
MODU or FPSO	17	14	1	2	3
Combination carrier	4	0	1	0	1
Total for 2011	3916	2457	1401	631	3002
2011 Deficiency rates	1.3	0.8	0.5	0.2	2.8
Total for 2010	3677	2178	1182	451	3127
2010 Deficiency rates	1.2	0.7	0.4	0.1	2.4

Figure 4 illustrates the proportion of each deficiency category for each type of vessel. The structural/ equipment and operational deficiency categories account for the major share of deficiencies, while the ISM-related deficiency category accounts for the least. The reason these ISM category deficiencies are fewer in number is that these are issued based on objective evidences of a breakdown of the SMS. As a result, one ISM deficiency could relate to a number of hardware, operational or human factor deficiencies.

This relationship however, may have the opposite impact for detainable deficiencies, as a range of operational/hardware deficiencies may result in an ISM detention even where no hardware detention is applied.

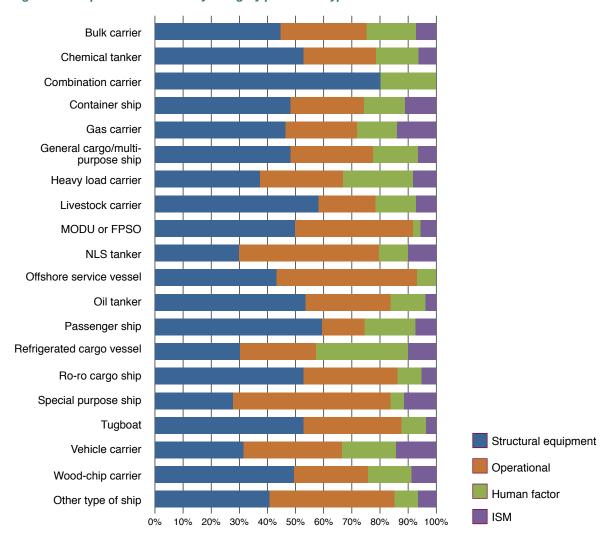


Figure 4 - Proportion of deficiency category per vessel type

#### **Detentions**

Serious deterioration of the hull structure, overloading, defective equipment such as lifesaving, radio and fire fighting appliances, poor operational practices and poor conditions may cause a ship to be considered as unseaworthy or substandard. Under these circumstances an AMSA Inspector may detain the ship under the *Navigation Act 1912* using the criteria and guidance given in the IMO Resolution on PSC and their professional judgment in determining if such action is warranted.

The IMO Resolution defines a detention as "intervention action taken by the port State when the condition of the ship or its crew does not correspond substantially with the applicable conventions to ensure that the ship will not sail until it can proceed to sea without presenting a danger to the ship or persons on board, or without presenting an unreasonable threat of harm to the marine environment, whether or not such action will affect the scheduled departure of the ship".

When an intervention action is taken to detain a ship, AMSA Inspectors follow the International Convention and IMO Resolution requirements to inform the flag State and consul or the nearest diplomatic representative of the vessels' flag State and the appropriate classification society or RO. The IMO will also receive details of the detention. AMSA publishes detention information each month on its website at: www.amsa.gov.au/Shipping\_Safety/Port\_State\_Control/.

During 2011, AMSA Inspectors detained 275 ships, giving an average detention rate of 9.2 per cent, compared to 7.1 per cent in 2010. Table 9 shows these detentions by ship type with a comparison to detention rates in 2010.

Table 9 - Total ships detained by ship type

Ohio Tono		2010		
Ship Type	Inspections	Detentions	Detention Rate	Detention Rate
Bulk carrier	1763	155	8.8%	7.3%
Chemical tanker	106	6	5.7%	4.7%
Combination carrier	1	1	100.0%*	0.0%*
Container ship	304	42	13.8%	7.9%
Gas carrier	47	3	6.4%	4.5%
General cargo/multi-purpose ship	245	27	11.0%	11.4%
Heavy load carrier	23	2	8.7%	13.0%
High speed passenger craft	0	0	0.0%*	0.0%*
Livestock carrier	34	7	20.6%	5.1%
MODU or FPSO	3	0	0.0%*	0.0%*
NLS tanker	12	0	0.0%	0.0%
Offshore service vessel	12	0	0.0%	15.8%
Oil tanker	181	11	6.1%	3.0%
Passenger ship	31	0	0.0%	0.0%
Refrigerated cargo vessel	4	0	0.0%*	0.0%*
Ro-ro cargo ship	12	4	33.3%	18.2%
Ro-ro passenger ship	0	0	0.0%*	0.0%*
Special purpose ship	6	0	0.0%*	0.0%*
Tugboat	28	3	10.7%	0.0%
Vehicle carrier	121	7	5.8%	6.2%
Wood-chip carrier	59	6	10.2%	5.3%
Other types of ship	10	1	10.0%	6.7%
Totals	3002	275	9.2%	7.1%

<sup>\*</sup>Less than 10 ships of this type were inspected in this year and given the small sample size the detention rate may not be indicative of the performance of this type of vessel.

AMSA's risk profiling of ships takes into account ship types, and AMSA will continue to direct specific attention to those groups of ships with poor performance.

Table 10 categorises the number of inspections, detentions and the detention rate of vessels against the flag State of the vessel. Vessels from 52 individual flag States were subjected to inspections in 2011.

Within this group, 12 flag States had detention rates of 10 per cent or more during 2011 compared with 6 in 2010. Flag States are informed whenever a ship under their flag is detained, with an expectation that this would prompt a review and contribute to a process of continuous improvement.

Table 10 – Total ships detained by Flag (no rates show where number of inspections is less than 10)

Flag	Inspections	Detentions	Detention Rate
Antigua and Barbuda	89	21	23.6
Bahamas	109	11	10.1
Barbados	4	0	-
Belgium	14	1	7.1
Belize	2	1	-
Bermuda	17	1	5.9
Cayman Islands	22	1	4.5
China	60	1	1.7
Cook Islands	3	0	-
Croatia	7	0	-
Curaçao	2	1	-
Cyprus	87	12	13.8
Denmark	9	0	-
Dominica	4	1	-
Egypt	5	2	-
Fiji	1	0	-
France	5	0	-
Germany	17	2	11.8
Gibraltar	8	2	-
Greece	64	4	6.3
Hong Kong	291	26	8.9
India	22	1	4.5
Indonesia	8	1	-
Ireland	1	0	-
Isle of Man	38	1	2.6
Italy	41	1	2.4
Japan	53	0	0.0

**Continued** 

Table 10 – Total ships detained by Flag (continued) (no rates show where number of inspections is less than 10)

Flag	Inspections	Detentions	Detention Rate
Korea, Republic of	85	7	8.2
Kuwait	5	1	-
Liberia	260	27	10.4
Luxembourg	6	1	-
Malaysia	19	5	26.3
Malta	105	13	12.4
Marshall Islands	166	13	7.8
Netherlands	39	2	5.1
New Zealand	2	0	-
Norway	28	4	14.3
Pakistan	1	0	-
Panama	882	67	7.6
Papua New Guinea	10	2	20.0
Philippines	32	2	6.3
Portugal	1	0	-
Russian Federation	1	0	-
Saint Vincent and the Grenadines	1	0	-
Samoa	2	0	-
Singapore	237	24	10.1
Sri Lanka	1	0	-
Sweden	10	0	0.0
Switzerland	6	1	-
Taiwan	16	2	12.5
Thailand	17	1	5.9
Tonga	4	2	-
Turkey	14	3	21.4
United Kingdom	40	4	10.0
United States	5	0	-
Vanuatu	16	1	6.3
Viet Nam	8	2	-
Totals	3002	275	

Another method of determining the relative performance of flag States in terms of detention is to compare the percentage share of the total number of inspections against the percentage share of the total number of detentions, side by side for each flag State.

Where the percentage share of detentions is higher than the percentage share of inspections this is an indication that the flag State is not performing well. This representation is given in Figure 5 which reflects the data from Table 10.

Figure 5 indicates that the flag States of Panama, Marshall Islands and Hong Kong are performing better than average, particularly considering the volume of inspections.

In 2011, AMSA Inspectors detained a total of 275 ships after finding serious deficiencies in a range of different categories.

Figure 5 – Comparison of proportion of inspections and detentions of totals for flag States with more than 10 inspections and more than 1 detention

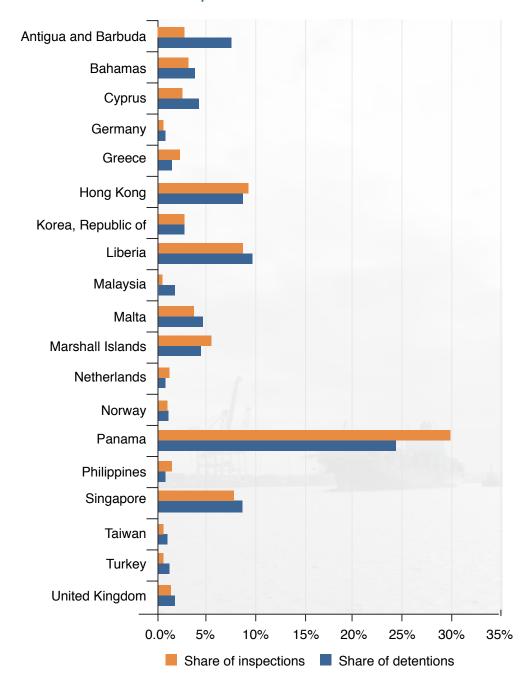


Table 11 indicates the proportion of detentions in different categories over a three-year rolling period.

Table 11 - Detainable deficiencies by category

Detainable Deficiencies by Category	2009	2009 % Share	2010	2010 % Share	2011	2011 % Share
Certificates and documentation - ship certificates	0	0.0	4	1.0	2	0.4
Certificates and documentation - crew certificates	1	0.2	5	1.3	0	0.0
Certificates and documentation - documents	0	0.0	1	0.3	2	0.4
Structural conditions	21	4.8	7	1.8	6	1.2
Water/weather-tight conditions	36	8.2	35	9.1	22	4.3
Emergency systems	19	4.3	20	5.2	21	4.1
Radio communications	47	10.7	25	6.5	23	4.5
Cargo operations including equipment	8	1.8	0	0.0	4	0.8
Fire safety	122	27.7	82	21.4	83	16.1
Alarms	0	0.0	0	0.0	1	0.2
Living conditions	0	0.0	0	0.0	0	0.0
Working conditions	9	2.0	2	0.5	4	0.8
Safety of navigation	4	0.9	8	2.1	33	6.4
Life-saving appliances	87	19.8	69	18.0	67	13.0
Dangerous goods	3	0.7	1	0.3	0	0.0
Propulsion and auxiliary machinery	4	0.9	6	1.6	15	2.9
Pollution prevention – MARPOL Annex I	14	3.2	12	3.1	22	4.3
Pollution prevention - MARPOL Annex II	0	0.0	0	0.0	0	0.0
Pollution prevention - MARPOL Annex III	0	0.0	0	0.0	0	0.0
Pollution prevention - MARPOL Annex IV	0	0.0	7	1.8	27	5.2
Pollution prevention - MARPOL Annex V	0	0.0	0	0.0	0	0.0
Pollution prevention - MARPOL Annex VI	0	0.0	0	0.0	0	0.0
Pollution prevention - anti fouling	0	0.0	0	0.0	0	0.0
ISM	59	13.4	97	25.3	173	33.5
ISPS	0	0.0	0	0.0	0	0.0
Other	6	1.4	3	0.8	11	2.1
Totals	440		384		516	

As indicated in Table 11, the detainable deficiencies relating to the categories of fire safety measures and lifesaving appliances have reduced as a proportion of the total number of detainable deficiencies. However, this provides no cause for confidence as the number of detainable deficiencies in these categories continues to remain high and there have been notable increases in the number and proportion of detainable deficiencies related to the safety of navigation and MARPOL Annex IV.

More significant is the dramatic increase in the number and proportion of ISM detainable deficiencies. The 'share' in this category has increased increase constantly since 2007 where it was 7.8 per cent. In 2011 this increase is a major cause of concern as it indicates that the management of ships may not be as effective as would be desired.

The increase in the number of ISM detainable deficiencies in 2011 may be due in part to an increased focus on the safety of navigation as well as on-going efforts in relation to fatigue and hours of rest for seafarers.

#### **Responsibility of Recognised Organisations**

The SOLAS regulated shipping fleet operates under class whereby each ship is designed, constructed and surveyed in compliance with the rules of an International Association of Classification Societies (IACS) member classification society, although a smaller percentage of ships are also classed by non IACS member societies. The IMO conventions require ships to be designed, built and surveyed by a classification society and classification societies (whether they are IACS members or not) also perform statutory survey and certification functions on behalf of a flag State under the terms of a Recognised Organisation (RO) agreement.

AMSA recognises nine classification societies to provide survey and certification services for ships that fly the Australian flag. These nine Recognised Organisations also conduct some delegated statutory survey services.

Table 12 lists the Recognised Organisations associated with the detention of ships by AMSA. The Tokyo MOU guidelines require that, AMSA Inspectors assess whether or not a detainable deficiency should be attributed to the RO responsible for the survey of the particular item. This occurs where it is found that a vessel or its equipment does not meet required standards or is defective and a statutory certificate is found to have been issued or endorsed by an RO on behalf of a particular flag State administration. In these cases, it is the RO's responsibility to ensure the vessel complies with all the relevant convention requirements.

Recognised Organisations may appeal a detention linked to RO responsibility. If successful, these appeals are not included in the statistics.

Table 12 also gives a comparison of deficiencies for each Recognised Organisation.

Table 12 - Total ships detained related to their Recognised Organisation

Recognised Organisation	Inspections	Defs	Dets	Det Rate	Total Det Defs	RO Resp Dets	RO Resp as % of Total Det Defs
American Bureau of Shipping (ABS)	280	692	23	8.2%	49	1	2.0%
Biro Klasifikasi Indonesia (BKI)	6	17	0	0.0%	0	0	0.0%
Bureau Veritas (BV)	243	915	34	14.0%	69	0	0.0%
China Classification Society (CCS)	144	318	7	4.9%	10	0	0.0%
China Corporation Register of Shipping (CCRS)	9	37	2	22.2%	4	0	0.0%
Croatian Register of Shipping (CRS)	4	4	0	0.0%	0	0	0.0%
Det Norske Veritas (DNV)	243	596	21	8.6%	31	2	6.5%
Germanischer Lloyd (GL)	313	1156	49	15.7%	107	6	5.6%
Indian Register of Shipping (IRS)	15	45	1	6.7%	1	0	0.0%
Korean Register of Shipping (KR)	203	516	12	5.9%	19	0	0.0%
Lloyd's Register (LR)	389	1004	37	9.5%	67	2	3.0%
Nippon Kaiji Kyokai (NK)	1083	2767	83	7.7%	138	5	3.6%
no class	3	35	0	0.0%	0	0	
Polski Rejestr Statkow (PRS)	1	0	0	0.0%	0	0	0.0%
Registro Italiano Navale (RINA)	62	257	4	6.5%	15	2	13.3%
Russian Maritime Register of Shipping (RS)	3	40	1	33.3%	5	0	0.0%
Viet Nam Register (VR)	1	6	1	100.0%	2	0	0.0%
2011 Totals	3002	8405	275	9.2%	517	18	3.5%

Table 13 provides a comparison between the 2010 and 2011 performance of relevant ROs based on the criteria of inspections, deficiency rates, detention rates and the percentage of the detainable items that were allocated RO responsibility for detention. The table indicates that the performance of ROs across these criteria remains relatively constant with some good improvements in the responsibility results of some ROs.

Table 13 - Recognised Organisation performance

Recognised Organisation	2010 Inspections	2011 Inspections	2010 average deficiencies per inspection	2011 average deficiencies per inspection	2010 detention rate (%)	2011 detention rate (%)	2010 RO resp as % of total det defs	2011 RO resp as % of total det defs
American Bureau of Shipping (ABS)	308	280	2.3	2.5	5.5	8.2	17.6	2.0
Biro Klasifikasi Indonesia (BKI)	4	6	10.0	2.8	0.0	0.0	-	-
Bureau Veritas (BV)	262	243	2.9	3.8	9.2	14.0	20.9	-
China Classification Society (CCS)	154	144	2.4	2.2	5.2	4.9	6.7	-
China Corporation Register of Shipping (CCRS)	14	9	3.0	4.1	7.1	22.2	1	-
Croatian Register of Shipping (CRS)	9	4	3.7	1.0	22.2	0.0	50.0	-
Det Norske Veritas (DNV)	244	243	2.0	2.5	5.7	8.6	-	6.5
Germanischer Lloyd (GL)	279	313	2.2	3.7	9.7	15.7	3.6	5.6
Indian Register of Shipping (IRS)	18	15	2.4	3.0	0.0	6.7	-	-
International Register of Shipping (IS)	2	0	11.5	-	0.0	-	-	-
Korea Classification Society (KCS)	1	0	4.0	-	0.0	-	-	-
Korean Register of Shipping (KR)	195	203	2.1	2.5	4.6	5.9	-	-
Lloyd's Register (LR)	423	389	2.5	2.6	7.6	9.5	10.9	3.0
Nippon Kaiji Kyokai (NK)	1120	1083	2.3	2.6	6.8	7.7	8.3	3.6
no class	2	3	1.0	11.7	0.0	0.0	-	-
Polski Rejestr Statkow (PRS)	0	1	-	0.0	-	0.0	-	-
Registro Italiano Navale (RINA)	81	62	3.6	4.1	8.6	6.5	-	13.3
Russian Maritime Register of Shipping (RS)	8	3	6.8	13.3	50.0	33.3	11.1	-
Viet Nam Register (VR)	2	1	7.0	6.0	0.0	100.0	-	-
other	1	0	0.0	-	0.0	-	-	-
Total	3127	3002						

## SUMMARY OF 2011 AUSTRALIAN PSC

In 2011 the overall ship detention rate rose to 9.2 per cent from 7.1 per cent in 2010. Similarly, the deficiency rate per inspection also increased marginally to 2.8 in 2011 from 2.4 in 2010. The Australian PSC statistics show AMSA should continue its endeavours to maintain an effective PSC inspection program.

The on-going monitoring of PSC deficiencies and detentions allows AMSA to adapt and improve the inspection process as well as providing the critical capability to identify new challenges and adopt processes to meet them. The increasing focus in 2011 on safety of navigation and MARPOL Annex IV, as well as on-going effort in regards to other critical areas such as safety management systems and hours of rest, is evidence of this evolutionary mechanism at work.

Targeting of vessels on the basis of risk factor has proved to be an effective practice enabling efficient use of AMSA resources. This effective system of dedicating AMSA resources to where they are most beneficial further explains the increased numbers of deficiencies per inspection and detentions even though less inspections were conducted. This practice will additionally enable AMSA to incorporate the PSC aspects of the Maritime Labour Convention, 2006.

AMSA continues to participate in relevant national and international forums aimed at promoting safety and pollution prevention and make available information on how Australia strives to achieve these. This includes active liaison with ship operators, ROs and other flag State administrations to encourage preventative action designed to promote safe ships which do not require PSC intervention.

It is important for both owners and operators to recognize that improving the quality of their vessels and the PSC performance will provide them with significant dividends, as the commercial benefits from having a good PSC history are well documented.

A detailed list of the detained ships of 2011 can be found at: www.amsa.gov.au/Shipping\_Safety/Port\_State\_Control/PSC\_Annual\_reports.asp.





Damaged hatch cleat



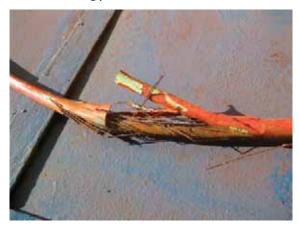
ECDIS found with 'no ENC available' alarm



Holed sea water pipe



Corroded lashing plate



Damaged lifeboat release cable



Fixed CO<sub>2</sub> system transportation safety pins still in place



Holed watertight bulkhead



Lifeboat on-load release disconnected



Contaminated water from oily water seperator



Rescue boat propeller missing



Photocopied charts used for navigation



Fire damper wasted and holed



Lifeboat hydrostatic interlock not set correctly

