Port State Control
2012 Report
Australia

Australian Government
Australian Maritime Safety Authority

2012

PORT STATE CONTROL REPORT

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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 on-going 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 2012, 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 2012 to 31 December 2012. During this period, AMSA inspectors who are sometimes referred to as Port State Control Officers or PSCOs carried out 3179 PSC inspections and recorded 7775 deficiencies. In total, approximately 5313 foreign-flagged vessels made more than 25 115 visits to Australian ports in 2012 and the number of inspections increased by 5.9 per cent, from a total of 3002 inspections in 2011. The average number of deficiencies found per inspection decreased from 2.8 in 2011 to 2.45 in 2012.

Throughout the 2012 reporting period, 210 vessels had deficiencies serious enough to warrant detention. The detention rate decreased from 9.2 per cent in 2011 to 6.6 per cent in 2012.

This decrease in both the number of deficiencies found per inspection and the detention rate are attributable to the effectiveness of industry education programs and resources produced by AMSA and the improved risk profile of vessels arriving in Australian ports.

The most significant number of operational deficiencies found in 2012 was in the area of fire safety measures, followed by the areas of lifesaving appliances, pollution prevention, SOLAS related operational deficiencies and load line defects.

International Safety Management (ISM) related issues accounted for 33.9 per cent of all detainable deficiencies in the 2012 reporting period. This area remains a significant concern and AMSA continues to scrutinise 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
August 2013

10-year summary of inspections, detentions and deficiency rate

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total inspections	2827	3201	3072	3080	2963	2795	2994	3127	3002	3179
Total detentions	190	173	154	138	159	225	248	222	275	210
Detention %	6.7	5.4	5	4.5	5.4	8.1	8.3	7.1	9.2	6.6
Deficiencies/inspections	2.4	2.3	2.6	2.9	2.5	3.3	3	2.4	2.8	2.4

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INTRODUCTION

Port State Control (PSC) is the inspection of foreign ships in national ports to verify that the condition of the ship and its equipment comply with the requirements of international regulations and that the ship is manned and operated in compliance with these rules.

This report summarises the PSC activities of the Australian Maritime Safety Authority (AMSA) and the performance of various ship types, flag States and classification societies for the 2012 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.

AMSA's flag and port State control regime is critical to carrying out these functions.

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 a responsibility for monitoring and enforcing 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 website and a link to the 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.

A total of 76 FSC inspections were carried out on board 60 Australian-flagged vessels in 2012. During these inspections, 205 deficiencies were recorded, of which three were serious enough to warrant detention of the three vessels concerned. This represents a decrease in the number of deficiencies per inspection from 4.8 in 2011 to 2.7 in 2012.

The number of FSC detentions decreased from six in 2011 to three in 2012. The FSC detention rate in 2012 remained lower than the PSC detention rate, 3.9 per cent for FSC versus 6.6 per cent for PSC.

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.

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These results reflect the fact that AMSA closely monitors Australian-flagged vessels and company performance. 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 2012, six PSC inspections were carried out on five Australian-flagged ships overseas. These occurred in Japan (four) and Singapore (two). These inspections resulted in a total of 10 minor deficiencies on three of the vessels and no ships were detained following inspection.

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 to the Australian Administrative Appeals Tribunal.

During 2012, 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, 30 appeals against vessel detention were received along with six appeals for RO responsibility. A full review of all relevant information was carried out in each case with three detentions subsequently rescinded and RO responsibility withdrawn in two 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 was finalised in 2012. The Tribunal affirmed AMSA's decision and following on from this decision a separate appeal submitted to the Tribunal in 2012 was subsequently withdrawn by the applicant. There were no appeals of AMSA detentions made to the Detention Review Panel of either the TMOU or IOMOU during 2012.

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).

In 2012 a review of the risk profile of ships trading in Australian ports indicated that larger numbers of lower risk ships visited Australian ports. The inspection rates for both Priority 1 and Priority 2 vessels saw increases of 11 and 13 per cent respectively.

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 2012, PSCOs from member states of the TMOU 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' software 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 both the TMOU and IOMOU regions.

In addition to storing historical data for providing background information about a ship, the Shipsys software 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). Use of the Shipsys software 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), the Indian Ocean Computerised Information System (IOCIS), "EQUASIS" and the IMO Global Integrated Shipping Information System (GISIS) database when making these decisions. More information on Shipsys is available on the Port State Control in Australia fact sheet.

In 2012 a review of the risk profile of ships trading in Australian ports indicated that larger numbers of lower risk ships visited Australian ports. The inspection rates for both Priority 1 and Priority 2 vessels saw increases of 11 and 13 per cent respectively. This positive trend of increasing numbers of low risk vessels arriving in Australian ports has continued 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 2012

Shipping industry activity

The foreign flag fleet serving the Australian trades largely continued the activity trends of recent years. Port visits by these ships in 2012 grew by nearly 6 per cent over 2011 levels to set a record of 25 115 arrivals across 69 ports, with the top 25 ports accounting for 90 per cent of these arrivals. These ships were also larger on average, as the total gross tonnage of these port arrivals grew by 9.1 per cent.

Port visits by foreign-flagged ships in 2012 grew by nearly 6 per cent over 2011 levels to set a record of 25 115 arrivals across 69 ports, with the top 25 ports accounting for 90 per cent of these arrivals.

This growth in port arrivals was not evenly spread, with strong growth at most of the major commodity ports and mixed outcomes at the capital city general cargo ports. The ports of Geelong, Geraldton, Gladstone, Kwinana, Mackay, Newcastle, Port Hedland and Weipa all enjoyed growth of between 13 per cent and 20 per cent in arrivals, while activity was generally flat at Bunbury, Dampier, Melbourne, Port Botany and Portland.

The ports of Geelong, Geraldton, Gladstone, Kwinana, Mackay, Newcastle, Port Hedland and Weipa all enjoyed growth of between 13 per cent and 20 per cent in arrivals.

The profile of the fleet also changed considerably, as was the case in the previous year. The growth in the number of individual ships making these port visits was moderate at over 4 per cent, with 5102 ships making those 25 115 port visits in 2012. Of these, 2253 (42%) had not visited Australia in 2011 and 1565 (29%) made only a single visit in 2012. These “new” ships were more than three years younger on average than those which they replaced, reducing the average age of visiting ships in 2012 to 8.2 years, compared to the 8.6 years average age of visiting ships in 2011.

This represents a clear improvement in the overall risk profile of the visiting fleet, as ship age has been found to be, statistically, the major contributor to the risk of a ship being detained at a port State control inspection.

5102 ships made 25 115 port visits in 2012. 2253 (42%) had not visited Australia in 2011.

These “new” ships were more than three years younger on average.

Bulk carriers made up 64 per cent of the fleet (although accounted for only 44 per cent of port visits), with container ships, general cargo ships, oil tankers and vehicle carriers each representing 4 per cent to 6 per cent shares of the fleet (but higher shares of port visits). These main ship types had mixed fortunes, with bulk carrier ship numbers increasing by 9.7 per cent, undertaking 7.9 per cent more port visits and being 2.4 per cent larger on average in gross tonnage terms. Activity by Container ships and General Cargo ships was slightly down on 2011 levels, while Gas Carriers increased port visits by 3.6 per cent, using ships which were 1.9 per cent larger on average.

The Charterers of ships visiting Australian ports are selective, with a clear preference for better quality ships, as the age and risk profiles of the ships from the main international Flags were also better than the averages for those fleets world-wide.

The average ages of the ships from the six largest open registers which visited Australia was clearly lower than for the world fleets of those Flags.

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 17 busiest Australian ports accounted for 80 per cent of national ship arrivals.

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Overall, the foreign-flagged fleet serving Australian trades in 2012 showed a healthy growth and more importantly, had a reduced risk of being unseaworthy.

Growth rates at Australia's main capital city general cargo ports were relatively static though, with the number of foreign ship arrivals in 2012 at these ports little changed from 2008 levels. In contrast, there remain strong rates of growth at the major commodity export ports. Foreign ship visits to Port Hedland totalled over 1800 in 2012, representing an average annual growth rate of 9.9 per cent since 2008. Similarly, Port Walcott experienced average annual growth of 9.4 per cent over this time.

Overall, the foreign-flagged fleet serving Australian trades in 2012 showed a healthy growth and more importantly, had a reduced risk of being unseaworthy.

Table 2 indicates that in 2012 there has been an increase in the number of port visits for vehicle carriers, chemical tankers and bulk carriers compared to 2011. Overall there was a 22.3 per cent reduction in livestock carrier visits in 2012 which may be attributed to a combination of the replacement of smaller capacity vessels with larger capacity vessels and a reduction in the trade quantum in some livestock trade markets.

From Figure 1 it is clearly evident that the number of vessels with risk factors of less than one per cent arriving in 2012 was higher than in 2011, and significantly higher than 2010.

There was a slight decrease in the number of deficiencies recorded per inspection of ships that arrived in Australia during 2012, as illustrated in Table 3 below. The number of deficiencies identified per inspection carried out on 'Priority 1' group ships decreased from 5.3 to 4.4, while the deficiency rates for inspections on other priority groups also shows a downward trend. In 2012 a total of 7775 deficiencies were found compared to the 8406 deficiencies found in 2011.

While the total number of deficiencies found in 2012 decreased compared to 2011 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.

From Table 4 it can be seen that the overall inspection rate of foreign-flagged vessels visiting Australian ports in 2012 was 56 per cent, compared with 67 per cent in 2011. As noted in table 4, this equated to a reduction of 205 inspections over the year. However, the reduction in the total number of ships inspected needs to be considered in light of the increased percentage of priority group 1 and 2 ships inspected, which is evidence that the inspection effort is being effectively targeted at higher risk ships.

Figure 1
Risk Factor of eligible port arrivals

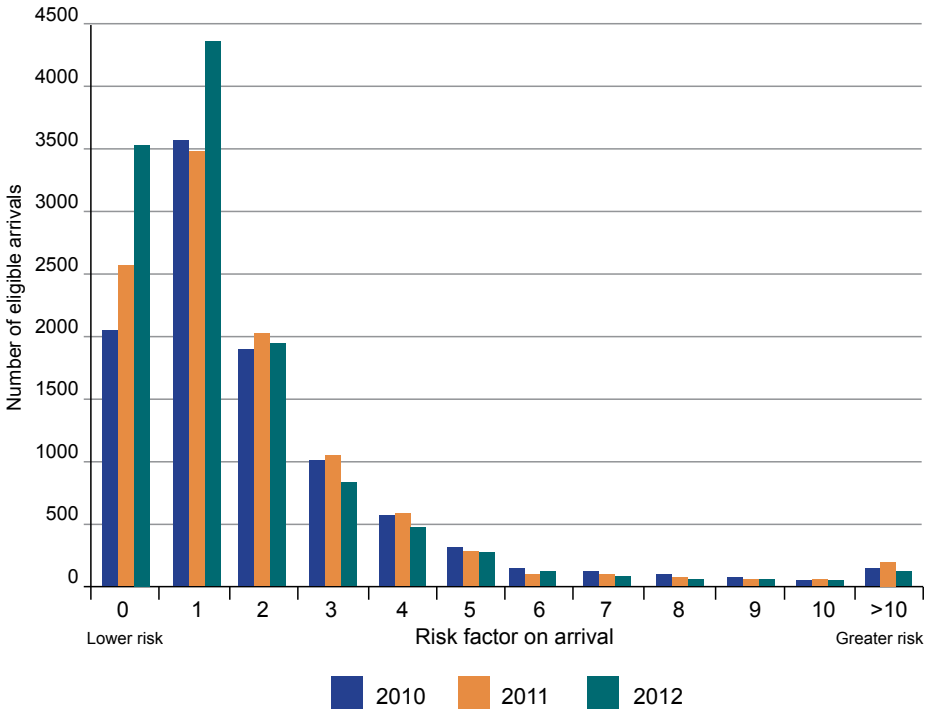


Table 2
Trends of ship visits in 2012 compared to 2011

Ship Type	2011	2012	Change
Bulk carrier	10255	11099	8.2%
Chemical tanker	1147	1291	12.6%
Container ship	4311	4298	-0.3%
Gas carrier	550	571	3.8%
General cargo/multi-purpose ship	2070	2029	-2.0%
Livestock carrier	229	178	-22.3%
Oil tanker	1860	1787	-3.9%
Vehicle carrier	1385	1589	14.7%
Other ship types	1979	2273	14.9%
Total Visits	**23786**	**25115**	**5.6%**
Individual Ships	**4899**	**5102**	**4.1%**
Total Inspections	**3002**	**3179**	**5.9%**
Total Inspections on Individual ships	**2659**	**2842**	**6.9%**
Inspection Rate (%)	**54.3**	**53.5**	**-0.8%**
Average Gross Tonnage	**42624**	**44588**	**4.6%**

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

Risk Factor	Priority Group	2011		2012	
		Deficiencies	Defs/Insp	Deficiencies	Defs/Insp
6 or higher	Priority 1	2599	5.3	1838	4.4
4 or 5	Priority 2	1439	3.3	1165	2.9
2 or 3	Priority 3	2240	2.5	2021	2.4
Less than 2	Priority 4	2128	1.8	2751	1.8
	Totals	**8406**	**2.8**	**7775**	**2.4**

Table 4
Unique foreign flag ships - by priority level

Priority Group	Ship Arrivals		Eligible Ships		Ships Inspected		Inspection Rate	
	2011	2012	2011	2012	2011	2012	2011	2012
Priority 1	529	339	478	339	399	319	83%	94%
Priority 2	503	383	477	383	367	344	77%	90%
Priority 3	1259	1108	1209	1108	790	736	65%	66%
Priority 4	2597	3272	2493	3272	1081	1443	43%	44%
Totals	**4888**	5102	**4657**	**5102**	**2637**	2842	**67%**	56%

3179 initial PSC inspections on 2842 foreign-flagged ships at 52 Australian ports

Inspections

A ship becomes eligible for inspection every six months. PSC inspections are carried out based on guidance provided in IMO Assembly Resolution A.1052 (27) and in procedures outlined under the TMOU and IOMOU. In 2012, AMSA Inspectors carried out 3179 initial PSC inspections on 2842 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 975 follow-up inspections of 785 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 13 of the 52 ports listed in Table 5. In 2012, as in 2011, the largest number of PSC inspections were undertaken in the port of Newcastle.

Table 5
Total ships inspected by port of inspection

Port	2008	2009	2010	2011	2012
Abbot Point, QLD	5	12	9	2	6
Albany, WA	24	20	14	8	15
Ardrossan, SA	2	2	1	0	0
Barrow Island, WA	0	0	1	0	0
Barry Beach, VIC	0	0	0	1	0
Beauty Point, TAS	0	0	1	0	0
Bell Bay, TAS	40	33	42	50	33
Bing Bong, NT	0	0	1	0	0
Brisbane, QLD	251	230	244	209	268
Broome, WA	1	2	3	6	1
Bunbury, WA	54	59	55	40	27
Bundaberg, QLD	1	0	0	1	0
Burnie, TAS	17	12	14	16	8
Cairns, QLD	24	19	20	14	24
Cape Cuvier, WA	0	0	2	0	0
Cape Flattery, QLD	1	0	2	1	2
Cape Preston, WA	0	0	1	0	0
Christmas Island	2	0	0	0	9
Dampier, WA	219	240	250	270	247
Darwin, NT	124	151	133	61	126
Devonport, TAS	2	3	6	10	4
Eden, NSW	1	0	1	2	1
Esperance, WA	13	16	8	3	3
Exmouth, WA	0	2	0	0	1
Fremantle, WA	123	126	136	120	148
Geelong, VIC	36	43	42	66	56
Geraldton, WA	22	50	39	15	34
Gladstone, QLD	206	191	242	222	133
Gove Harbour, NT	10	6	13	4	8

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

Port	2008	2009	2010	2011	2012
Griffin Venture (oil terminal), WA	0	1	0	0	0
Groote Eylandt, NT	7	5	4	2	0
Hay Point, QLD	331	308	339	198	230
Hobart, TAS	8	17	12	7	10
Karumba, QLD	2	1	0	0	1
Koolan Island, WA	0	0	0	0	1
Kurnell, NSW	12	8	11	17	16
Kwinana, WA	130	192	179	159	206
Lucinda, QLD	3	5	3	0	3
Mackay, QLD	21	16	27	26	49
Melbourne, VIC	134	175	146	194	185
Mourilyan, QLD	7	7	8	1	9
Newcastle, NSW	286	343	293	360	392
Nganhurra, WA	1	0	1	1	0
Onslow, WA	1	2	1	0	0
Point Wilson, VIC	0	0	0	0	0
Port Adelaide, SA	36	66	87	104	84
Port Alma, QLD	11	16	7	6	5
Port Bonython, SA	1	2	1	0	0
Port Botany, NSW	157	128	179	193	186
Port Giles, SA	2	1	6	6	2
Port Hedland, WA	124	137	189	227	195
Port Kembla, NSW	89	116	115	108	175
Port Latta, TAS	2	2	3	2	4
Port Lincoln, SA	7	4	4	12	8
Port Pirie, SA	1	5	2	2	4
Port Walcott, WA	26	35	32	51	23
Portland, VIC	14	13	8	17	18
Spring Bay, TAS	6	6	3	4	0
Sydney, NSW	80	37	46	49	54
Thevenard, SA	1	1	4	1	2
Townsville, QLD	88	97	110	104	133
Useless Loop, WA	2	6	6	2	1
Wallaroo, SA	3	9	9	15	12
Weipa, QLD	14	1	7	7	9
Westernport, VIC	3	11	0	2	6
Whyalla, SA	7	2	4	3	1
Woollybutt (Oil facility), WA	0	0	1	1	1
Wyndham, WA	0	2	0	0	0
Other	0	0	0	0	0
Totals	**2795**	**2994**	**3127**	**3002**	**3179**

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 930 Panamanian ships were inspected in 2012 representing an increase from the 882 inspected in 2011. Ships from Hong Kong, Liberia and Singapore represented a further 28 per cent of ships inspected in 2012.

Table 6
Total ships inspected by flag State

Flag	2008	2009	2010	2011	2012
Antigua and Barbuda	59	60	75	89	84
Argentina	0	0	1	0	0
Bahamas	98	120	106	109	104
Bangladesh	0	0	1	0	0
Barbados	3	3	7	4	2
Belgium	10	9	12	14	8
Belize	4	3	2	2	2
Bermuda	13	18	22	17	16
Bulgaria	0	0	1	0	0
Cayman Islands	14	16	18	22	20
Chile	1	0	0	0	0
China	56	72	76	60	89
Cook Islands	3	5	7	3	2
Croatia	8	10	8	7	3
Curaçao	3	4	2	2	3
Cyprus	97	96	106	87	82
Denmark	20	17	10	9	12
Dominica	2	7	2	4	2
Egypt	4	4	3	5	5
Fiji	0	0	0	1	0
France	8	8	11	5	4
Germany	18	29	21	17	14
Gibraltar	3	12	14	8	16
Greece	68	66	80	64	53
Hong Kong	252	282	298	291	326
India	22	29	23	22	23
Indonesia	7	3	11	8	7
Iran	3	1	0	0	0
Ireland	0	0	0	1	1
Isle of Man	47	39	40	38	50
Italy	33	41	50	41	35
Japan	30	41	34	53	54
Korea, Republic of	83	84	86	85	68
Kuwait	6	6	4	5	3
Liberia	203	216	270	260	303
Libyan Arab Jamahiriya	0	0	2	0	0
Lithuania	0	0	1	0	0
Luxembourg	2	3	2	6	3
Malaysia	7	8	16	19	14
Malta	91	104	108	105	127
Marshall Islands	112	115	146	166	186

Flag	2008	2009	2010	2011	2012
Mauritius	0	1	0	0	0
Myanmar	0	0	0	0	0
Netherlands	**39**	**36**	**38**	**39**	**46**
New Zealand	2	2	2	2	1
Norway	39	42	32	28	31
Pakistan	0	0	0	1	2
Panama	951	940	973	882	936
Papua New Guinea	16	16	11	10	14
Philippines	41	47	43	32	27
Portugal	0	1	2	1	1
Russian Federation	6	4	1	1	1
Saint Kitts and Nevis	0	0	0	0	1
Saint Vincent and the Grenadines	4	6	5	1	0
Samoa	2	1	1	2	2
Singapore	194	213	197	237	264
Sri Lanka	0	0	0	1	1
Sweden	9	11	10	10	12
Switzerland	3	9	7	6	5
Taiwan	19	17	16	16	20
Thailand	9	25	15	17	9
Tonga	6	9	4	4	1
Trinidad and Tobago	0	0	0	0	0
Turkey	6	12	15	14	7
Tuvalu	1	0	0	0	1
United Arab Emirates	1	0	0	0	0
United Kingdom	27	35	42	40	46
United States	1	0	1	5	5
Vanuatu	21	26	28	16	17
Viet Nam	8	10	8	8	7
All foreign ships	**2795**	**2994**	**3127**	**3002**	**3179**

Table 6

Total ships inspected by flag State (Continued)

Figure 2 represents the inspections by flag State for vessels having been subjected to more than 25 inspections during 2012. Flag States that have less than 25 inspections in a year are not considered to be statistically significant.

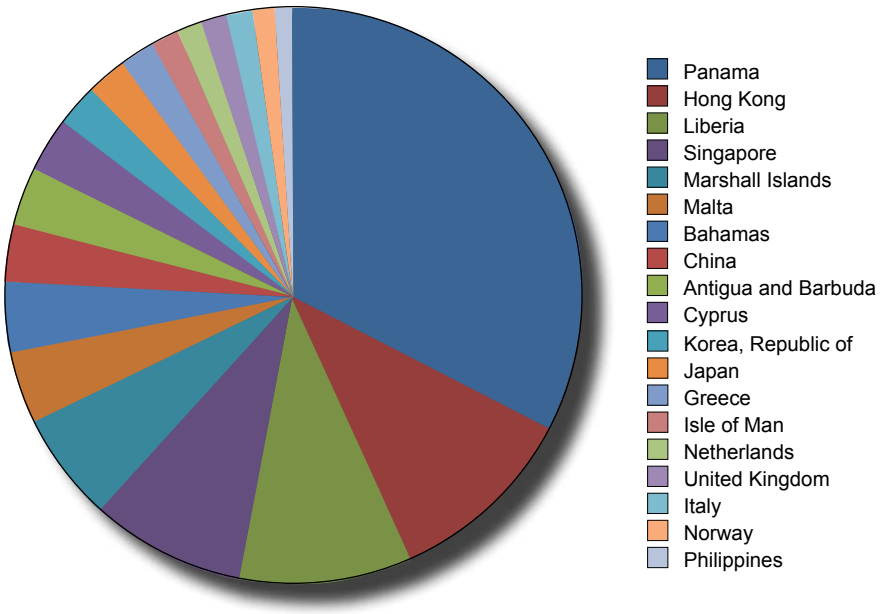


Figure 2

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

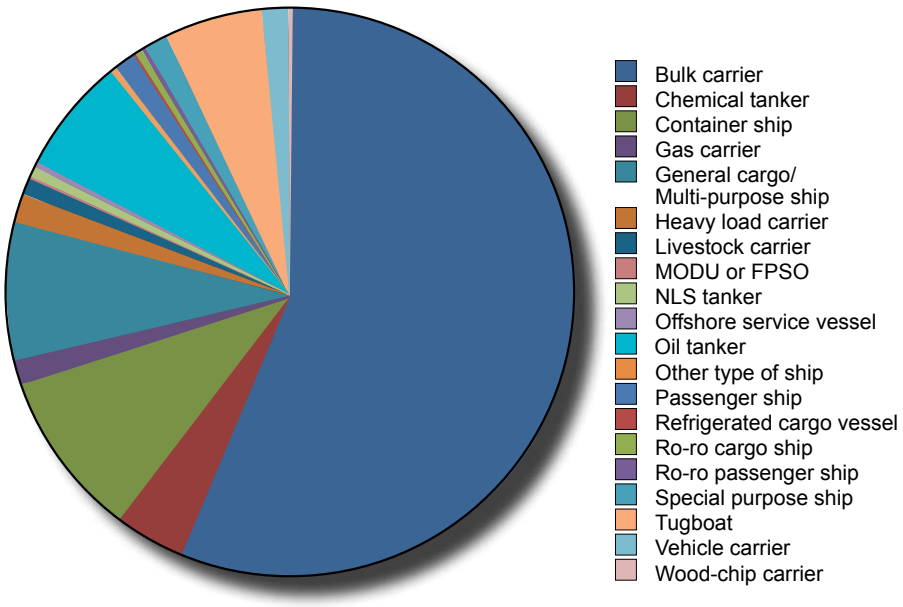
Table 7 shows the number of inspections compared to vessel type, presented over a five-year period.

Table 7
Total ships inspected by ship type

Ship type	2008	2009	2010	2011	2012
Bulk carrier	1596	1747	1865	1763	1787
Chemical tanker	107	119	107	106	126
Combination carrier	4	9	1	1	0
Container ship	279	271	279	304	306
Factory ship	0	0	0	0	0
Gas carrier	40	46	44	47	46
General cargo/multi-purpose ship	199	227	237	245	246
Heavy load carrier	15	25	23	23	56
High speed passenger craft	1	0	1	0	0
Livestock carrier	39	45	39	34	29
MODU or FPSO	5	4	6	3	4
NLS tanker	4	6	7	12	17
Offshore service vessel	21	29	19	12	9
Oil tanker	163	168	200	181	211
Passenger ship	24	29	29	31	38
Refrigerated cargo vessel	3	1	2	4	4
Ro-ro cargo ship	12	9	11	12	12
Ro-ro passenger ship	0	1	1	0	1
Special purpose ship	14	12	9	6	7
Tugboat	31	42	29	28	40
Vehicle carrier	145	120	146	121	178
Wood-chip carrier	80	66	57	59	52
Other types of ship	13	18	15	10	10
Totals	**2795**	**2994**	**3127**	**3002**	**3179**

From Table 7 and figure 3, it is clear that bulk carriers continue to be the most inspected vessel type with approximately 56 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.1052 (27), 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 2012, AMSA Inspectors recorded a total of 7775 deficiencies. This resulted in a deficiency rate of 2.4 per inspection, which is a decrease compared to 2011 (2.8 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 2011.

Table 8

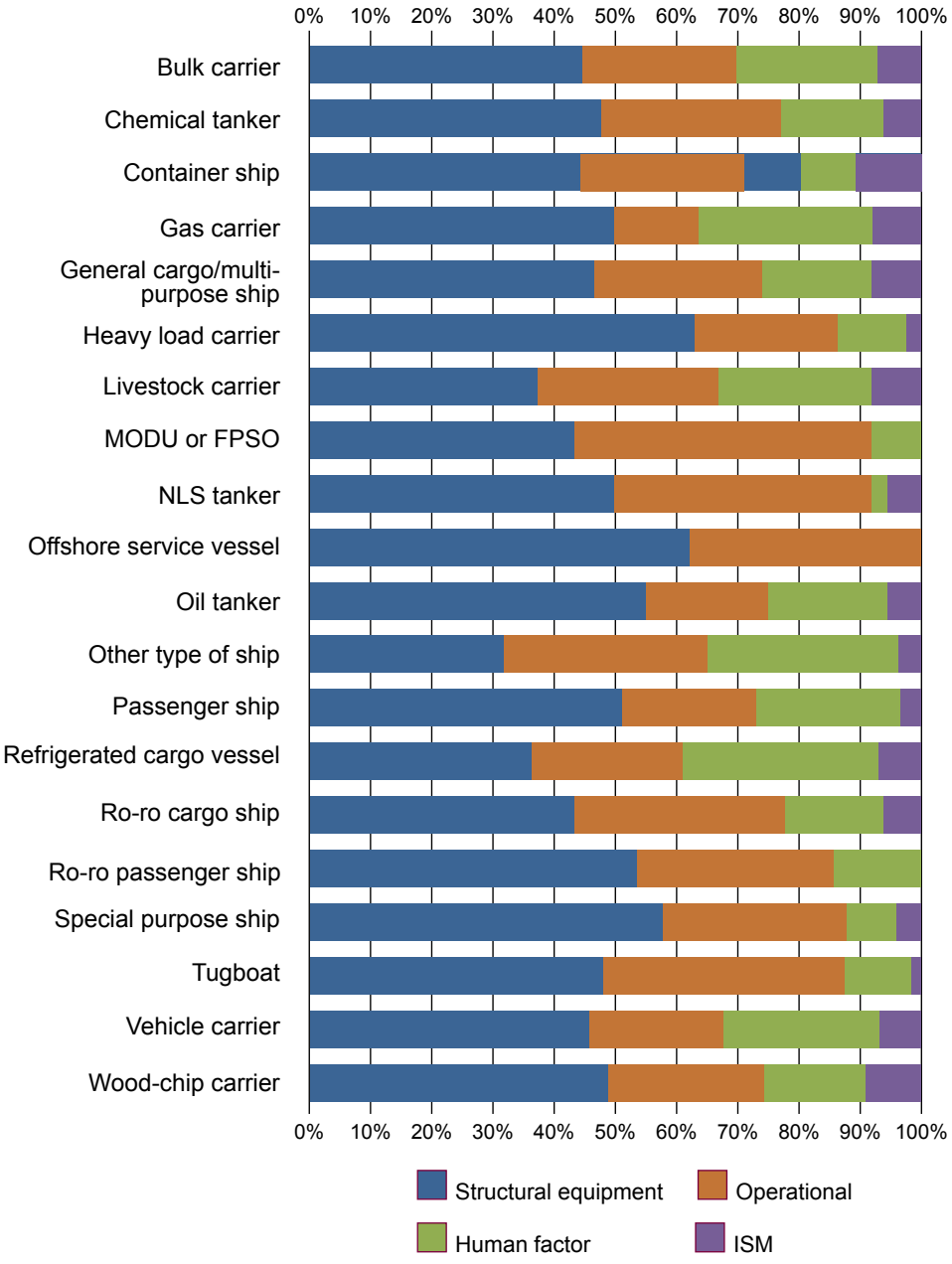
Deficiency category by inspection number and ship type

Ship Type	Deficiency Categories				PSC Inspections
	Structural/ Equipment	Operational	Human Factor	ISM	
Bulk carrier	2183	1168	1065	336	1787
Chemical tanker	59	35	20	7	126
Container ship	299	198	114	78	306
Gas carrier	14	4	8	2	46
General cargo/multi-purpose ship	391	224	147	66	246
Heavy load carrier	64	38	24	11	56
Livestock carrier	105	39	18	3	29
MODU or FPSO	13	15	2	0	4
NLS tanker	15	6	7	2	17
Offshore service vessel	17	10	0	0	9
Oil tanker	95	33	31	11	211
Other types of ship	11	12	11	1	10
Passenger ship	49	21	22	3	38
Refrigerated cargo vessel	10	7	9	2	4
Ro-ro cargo ship	52	41	18	8	12
Ro-ro passenger ship	8	5	2	0	1
Special purpose ship	24	12	3	2	7
Tugboat	47	39	11	2	40
Vehicle carrier	98	50	56	14	178
Wood-chip carrier	72	38	25	13	52
Total for 2012	3626	1995	1593	561	3179
2012 Deficiency rates	**1.1**	**0.6**	**0.5**	**0.2**	**2.4**
Total for 2011	3916	2457	1401	631	3002
2011 Deficiency rates	1.3	0.8	0.5	0.2	2.8

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 Safety Management System (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 2012, AMSA Inspectors detained 210 ships, giving an average detention rate of 6.6 per cent, compared to 9.2 per cent in 2011. Table 9 shows these detentions by ship type with a comparison to detention rates in 2011.

- *During 2012, AMSA Inspectors detained 210 ships, giving an average detention rate of 6.6 per cent, compared to 9.2 per cent in 2011.*

Table 9
Total ships detained by ship type

Ship Type	2012			2011 Detention Rate
	Inspections	Detentions	Detention Rate	
Bulk Carrier	1787	124	6.9%	8.8%
Chemical tanker	126	5	4.0%	5.7%
Combination carrier	0	0	0	100.0%*
Container ship	306	20	6.5%	13.8%
Gas carrier	46	1	2.2%	6.4%
General cargo / multi-purpose ship	246	26	10.6%	11.0%
Heavy load carrier	56	6	10.7%	8.7%
High speed passenger craft	0	0	0	0.0%*
Livestock carrier	29	3	10.3%	20.6%
MODU or FPSO	4	0	0.0%	0.0%*
NLS tanker	17	1	5.9%	0.0%
Offshore service vessel	9	0	0.0%	0.0%
Oil tanker	211	6	2.8%	6.1%
Passenger ship	38	2	5.3%	0.0%
Refrigerated cargo vessel	4	1	25.0%	0.0%*
Ro-ro cargo ship	12	3	25.0%	33.3%
Ro-ro passenger ship	1	1	100.0%	0.0%*
Special purpose ship	7	1	14.3%	0.0%*
Tugboat	40	0	0.0%	10.7%
Vehicle carrier	178	4	2.2%	5.8%
Wood-chip carrier	52	3	5.8%	10.2%
Other types of ship	10	3	30.0%	10.0%
Totals	**3179**	**210**	**6.6%**	**9.2%**

**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 57 individual flag States were subjected to inspections in 2012.

Within this group, 4 flag States had detention rates of 10 per cent or more during 2012 compared with 12 in 2011. 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	84	15	17.90%
Bahamas	104	5	4.80%
Barbados	2	-	-
Belgium	8	-	-
Belize	2	-	-
Bermuda	16	0	0.00%
Cayman Islands	20	1	5.00%
China	89	5	5.60%
Cook Islands	2	-	-
Croatia	3	-	-
Curacao	3	-	-
Cyprus	82	7	8.50%
Denmark	12	1	8.30%
Dominica	2	-	-
Egypt	5	-	-
France	4	-	-
Germany	14	0	0.00%
Gibraltar	16	1	6.30%
Greece	53	5	9.40%
Hong Kong	326	13	4.00%
India	23	0	0.00%
Indonesia	7	-	-
Ireland	1	-	-
Isle of Man	50	2	4.00%
Italy	35	2	5.70%
Japan	54	3	5.60%
Kiribati	1	-	-
Korea, Republic of	68	6	8.80%
Kuwait	3	-	-

Flag	Inspections	Detentions	Detention Rate
Liberia	303	24	7.90%
Luxembourg	3	-	-
Malaysia	14	0	0.00%
Malta	127	7	5.50%
Marshall Islands	186	12	6.50%
Netherlands	46	4	8.70%
New Zealand	1	-	-
Norway	31	0	0.00%
Pakistan	2	-	-
Panama	936	54	5.80%
Papua New Guinea	14	5	35.70%
Philippines	27	3	11.10%
Portugal	1	-	-
Russian Federation	1	-	-
Saint Kitts and Nevis	1	-	-
Samoa	2	-	-
Singapore	264	15	5.70%
Sri Lanka	1	-	-
Sweden	12	1	8.30%
Switzerland	5	-	-
Taiwan	20	2	10.00%
Thailand	9	-	-
Tonga	1	-	-
Turkey	7	-	-
Tuvalu	1	-	-
United Kingdom	46	2	4.30%
United States	5	-	-
Vanuatu	17	1	5.90%
Viet Nam	7	-	-
	3179	**210**	6.60%

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

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.

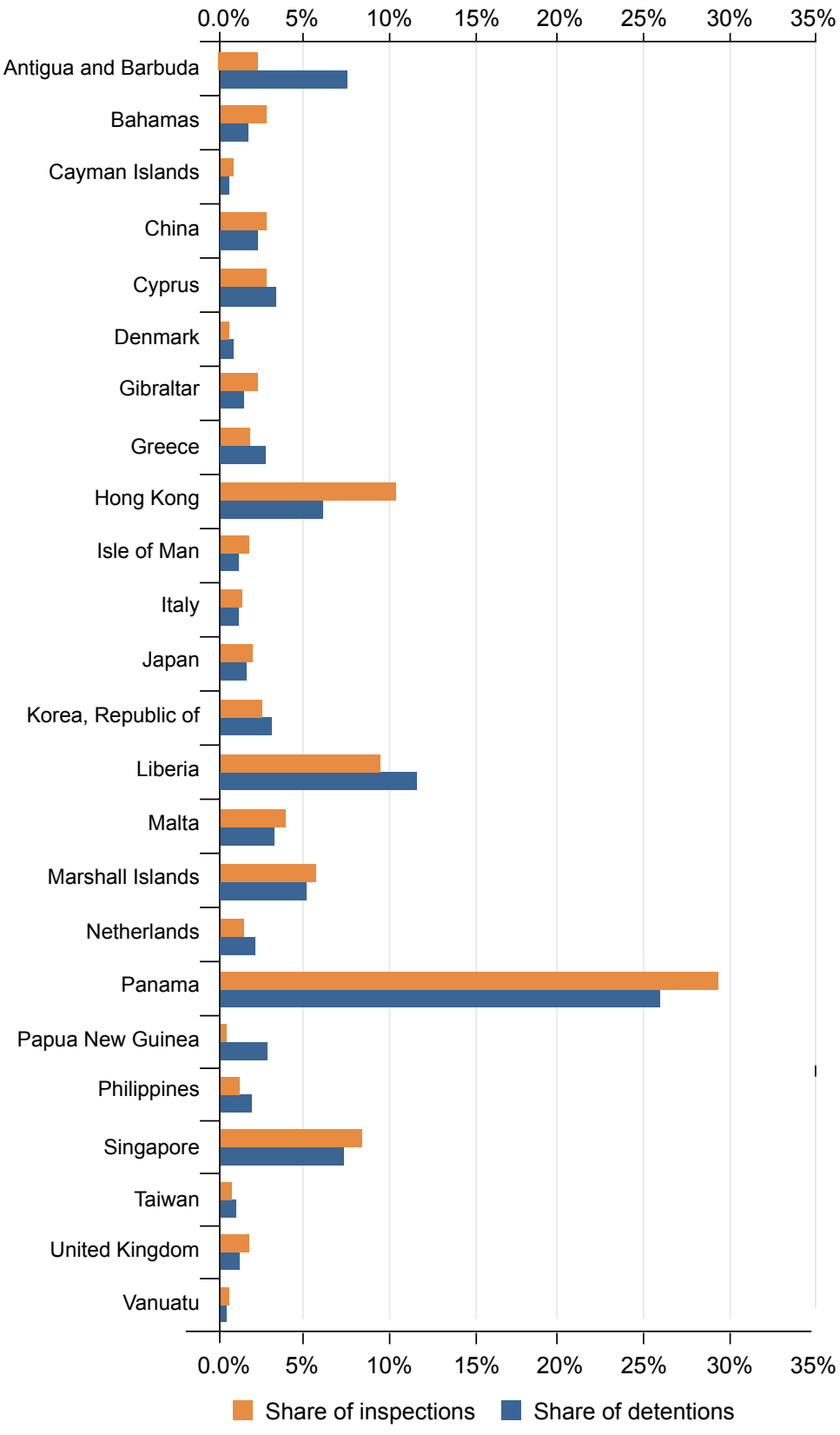
Where the percentage share of detentions is higher than the percentage share of inspections this is an indication that the flag State is not performing well. This representation is given in Figure 5 which reflects the data from Table 10.

Figure 5 indicates that the flag States of Panama and Hong Kong are performing

better than average, particularly considering the volume of inspections.

In 2012, AMSA Inspectors detained a total of 210 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



Detainable deficiencies by category	2010	2010 % share	2011	2011 % share	2012	2012 % share
ISM	97	25.3	173	33.5	120	33.9
Fire safety	82	21.4	83	16.1	63	17.8
Life-saving appliances	69	18	67	13	42	11.9
Pollution prevention	19	4.9	49	9.5	23	6.5
Emergency systems	20	5.2	21	4.1	22	6.2
Water/weather-tight conditions	35	9.1	22	4.3	20	5.6
Safety of navigation	8	2.1	33	6.4	19	5.4
Radio communications	25	6.5	23	4.5	12	3.4
Structural conditions	7	1.8	6	1.2	10	2.8
Certificates and documents	10	2.6	4	0.8	4	1.1
Cargo operations including equipment	0	0	4	0.8	3	0.8
Propulsion and auxiliary machinery	6	1.6	15	2.9	3	0.8
Working and living conditions	2	0.5	4	0.8	1	0.3
Alarms	0	0	1	0.2	0	0
Dangerous goods	1	0.3	0	0	0	0
ISPS	0	0	0	0	0	0
Other	3	0.8	11	2.1	12	3.4
Totals	**384**		**516**		**354**	

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

As indicated in Table 11, the detainable deficiencies relating to the category of fire safety measures experienced a minor increase whilst the category of lifesaving appliances experienced minor reduction 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 structural conditions and emergency systems.

The significant increase in both the number and proportion of ISM detainable deficiencies observed in 2011 was not repeated again in 2012 although both remain substantially above the 2010 figures. The relatively high proportion of detainable deficiencies attributable to this area remains a major cause of concern as it indicates that the management of ships is not as effective as would be desired.

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. The assignment of RO responsibility 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.

Recognised Organisation	Insps	Defs	Dets	Det Rate	Total Det Defs	RO Resp Dets	RO Resp as % of Total Det Defs	RO Resp as % of Total Insps
American Bureau of Shipping (ABS)	349	696	15	4.3%	20	2	10.0%	0.57%
Biro Klasifikasi Indonesia (BKI)	2	21	1	50.0%	3	0	0.0%	0.0%
Bureau Veritas (BV)	256	819	23	9.0%	38	3	7.9%	1.17%
China Classification Society (CCS)	173	350	9	5.2%	10	0	0.0%	0%
China Corporation Register of Shipping (CCRS)	9	27	2	22.2%	2	0	0.0%	0%
Croatian Register of Shipping (CRS)	2	15	0	0.0%	0	0	0.0%	0%
Det Norske Veritas (DNV)	227	418	7	3.1%	10	1	10.0%	0.44%
Germanischer Lloyd (GL)	317	855	34	10.7%	60	3	5.0%	0.95%
Indian Register of Shipping (IRS)	12	20	0	0.0%	0	0	0.0%	0%
International Register of Shipping (IS)	1	26	1	100.0%	2	0	0.0%	0%
International Ship Classification (ISC)	1	15	1	100.0%	3	3	100.0%	300%
Korean Register of Shipping (KRS)	203	434	10	4.9%	14	0	0.0%	0%
Lloyd's Register (LR)	436	962	26	6.0%	59	4	6.8%	0.92%
Nippon Kaiji Kyokai (NKK)	1128	2908	77	6.8%	122	0	0.0%	0%
no class	2	9	0	0.0%	0	0	0.0%	0%
Registro Italiano Navale (RINA)	56	141	3	5.4%	5	0	0.0%	0%
RINAVE Portuguesa (RP)	1	20	1	100.0%	6	0	0.0%	0%
Russian Maritime Register of Shipping (RMRS)	2	10	0	0.0%	0	0	0.0%	0%
Viet Nam Register (VR)	2	29	0	0.0%	0	0	0.0%	0%
2012 Totals	**3179**	**7775**	**210**		**354**	**16**		

Table 12
Total ships detained related to their Recognised Organisation

Table 13 provides a comparison between the 2011 and 2012 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	2011 Inspections	2012 Inspections	2011 deficiencies /PSC	2012 deficiencies /PSC	2011 detention rate	2012 detention rate	2011 RO resp as % of total Det Defs	2012 RO resp as % of total Det Defs
American Bureau of Shipping (ABS)	280	349	2.5	2	8.2	4.3%	2	10.0%
Biro Klasifikasi Indonesia (BKI)	6	2	2.8	10.5	0	50.0%	0	0.0%
Bureau Veritas (BV)	262	256	3.8	3.2	14	9.0%	0	7.9%
China Classification Society (CCS)	144	173	2.2	2	4.9	5.2%	0	0.0%
China Corporation Register of Shipping (CCRS)	14	9	4.1	3	22.2	22.2%	0	0.0%
Croatian Register of Shipping (CRS)	4	2	1	7.5	0	0.0%	0	0.0%
Det Norske Veritas (DNV)	243	227	2.5	1.8	8.6	3.1%	6.5	10.0%
Germanischer Lloyd (GL)	313	317	3.7	2.7	15.7	10.7%	5.6	5.0%
Indian Register of Shipping (IRS)	15	12	3	1.7	6.7	0.0%	0	0.0%
International Register of Shipping (IS)	0	1	0	26	0	100.0%	0	0.0%
International Ship Classification (ISC)	0	1	0	15	0	100.0%	0	100.0%
Korean Register of Shipping (KRS)	203	203	2.5	2.1	5.9	4.9%	0	0.0%
Lloyd's Register (LR)	389	436	2.6	2.2	9.5	6.0%	3	6.8%
Nippon Kaiji Kyokai (NKK)	1083	1128	2.6	2.6	7.7	6.8%	3.6	0.0%
no class	3	2	11.7	4.5	0	0.0%	0	0.0%
Registro Italiano Navale (RINA)	62	56	4.1	2.5	6.5	5.4%	13.3	0.0%
RINAVE Portuguesa (RP)	0	1	0	20	0	100.0%	0	0.0%
Russian Maritime Register of Shipping (RMRS)	3	2	13.3	5	33.3	0.0%	0	0.0%
Viet Nam Register (VR)	1	2	6	14.5	100	0.0%	0	0.0%
Total	**3025**	**3179**						

SUMMARY OF 2012 AUSTRALIAN PSC

In 2012 the overall ship detention rate decreased to 6.6 per cent from 9.2 per cent in 2011. Similarly, the deficiency rate per inspection also decreased marginally to 2.4 in 2012 from 2.8 in 2011. The Australian PSC statistics show AMSA should continue its endeavours to maintain an effective PSC inspection program.

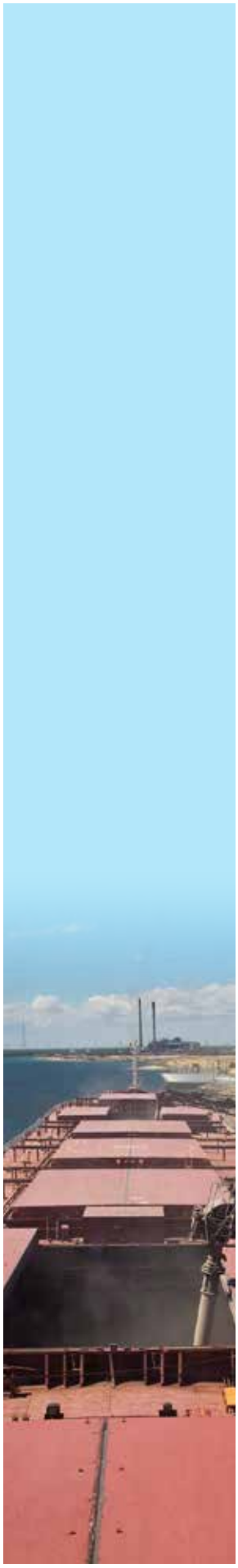
The on-going monitoring of PSC deficiencies and detentions allows AMSA to adapt quickly and improve the inspection process as well as providing the critical capability to identify new challenges and adopt processes to meet them.

Targeting of vessels on the basis of a calculated risk factor continues 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 higher number of deficiencies per inspection for priority 1 and priority 2 category vessels. This on-going implementation of 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 recognise that improving the quality of their vessels and the PSC performance provides 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 2012 can be found at:
www.amsa.gov.au/forms-and-publications/vessels/publications/Ship-Safety/index.asp

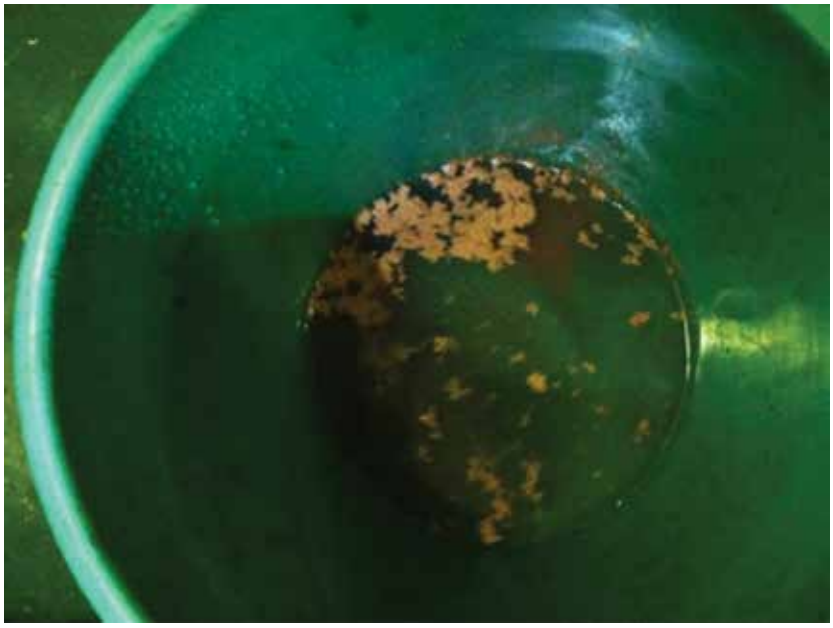


Fire damper seized in open position.

ECDIS being used in RCDS mode. No ENC's available.

Lifeboat hydrostatic release interlock un-armed.

Perished hatch cover sealing rubber.



Raw sewage being discharged overboard.

Manufactured chart being used for navigation.