



AMSA

The Australian Maritime Safety Authority (AMSA) is a corporate Commonwealth entity established under the *Australian Maritime Safety Authority Act 1990* (the AMSA Act).

As Australia's national maritime regulatory body, we promote the safety and protection of our marine environment and combat ship-sourced pollution. We provide infrastructure for safety of navigation in Australian waters, and maintain a national search and rescue service for the maritime and aviation sectors.

Key areas of focus for AMSA include:

- development of maritime safety standards for domestic commercial vessels Australia-wide (commercial fishing boats, hire and drive/charter, ferry, port tugs and utility vessels);
- development of maritime safety and environmental protection standards to promote the responsible operation of ships and safety of seafarers;
- monitor and enforce compliance with these standards;
- certify seafarers to work on domestic commercial vessels and international ships;
- respond to ship based maritime environmental emergencies;
- provide systems that aid safe marine navigation; and
- coordinate the rescue of people in maritime and aviation distress situations.

Response to the inquiry terms of reference

The terms of reference for the inquiry refer to the policy, regulatory, taxation, administrative and funding priorities for shipping in Australia, with particular reference to:

- a. new investment in Australian ships and building a maritime cluster in Australia;
- b. the establishment of an efficient and commercially-oriented coastal ship licensing system and foreign crew visa system;
- c. the interaction with other modes of freight transport, non-freight shipping and government shipping;
- d. maritime security, including fuel security and foreign ship and crew standards;
- e. environmental sustainability;
- f. workforce development and seafarer training;
- g. port infrastructure, port services and port fees and charges; and
- h. any related matters.

AMSA's submission addresses the terms of reference in relation to ship registration, foreign ship and crew standards, environmental sustainability, seafarer training and certification, port infrastructure and port services (d, e, f, g).

(d) Foreign ship and crew standards

AMSA requires ships to be seaworthy and to meet standards through a range of measures including:

- highly developed and timely ship monitoring, risk assessment and intelligence gathering arrangements;
- a stringent and highly effective Port State Control (PSC) regime;
- an international reputation that deters substandard ships from coming to Australia;
- effective compliance and enforcement arrangements;
- highly trained and experienced staff; and
- international engagement at the International Maritime Organization (IMO) and at regional meetings of governments, operators, builders, owners, crew and Classification Societies.

Flag states have primary responsibility to ensure their ships are constructed, maintained, manned and operated according to international standards, including but not limited to the following:

- International Convention for the Safety of Life at Sea (SOLAS)
- International Convention for the Prevention of Pollution from Ships
- International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)
- International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code); and
- International Labour Organization's Maritime Labour Convention, 2006.

The legislation giving effect to these conventions provides for a variety of enforcement actions. PSC inspections are the internationally accepted method to ensure that foreign ships are in a seaworthy condition and operate in accordance with a range of international safety and environmental protection conventions when in the port of another State.

The international standards that apply to foreign flag vessels are the same standards that are applied to Regulated Australian Vessels (RAVs), subject to the *Navigation Act 2012*. RAVs are subject to a flag State control inspection program. Under section 15 of the *Navigation Act 2012*, a RAV is any Australian vessel that:

- is registered, required to be registered, or entitled to be registered under the *Shipping Registration Act 1981*; and
- is not a recreational vessel; and any of the below apply
 - is proceeding on an overseas voyage, or for use on an overseas voyage. An overseas voyage is any voyage beyond the Australian exclusive economic zone (EEZ); or
 - has a valid safety certificate issued under the *Navigation Act 2012*, other than a tonnage certificate, pollution certificates, an anti-fouling system certificate or a Declaration of Maritime Labour Compliance;
 - has an opt-in declaration in force.

AMSA port marine surveyors carry out PSC inspections of ships in Australian ports. These AMSA surveyors (inspectors) are appointed under the *Navigation Act 2012*. AMSA surveyors are appropriately qualified and are required to participate in a comprehensive training and auditing program to support their professionalism, consistency and accountability. AMSA has 60 surveyors at 17 Australian ports.

Australia maintains one of the world's highest ship inspection rates. AMSA's inspection program identifies foreign ships for inspection based on factors such as ship type, age and inspection history and focuses primarily on higher risk ships. Ships become eligible for inspection six months after their previous PSC inspection in Australia or New Zealand.

Results from the 2018 PSC inspection program show that ship arrivals increased by 2 per cent in 2018; individual ship arrivals were up 0.5 per cent; the detention rate increased slightly to 5.5 per cent; and the number of deficiencies per inspection decreased from 2.3 in 2017 to 1.8 per cent in 2018. Further detail on ship inspections from 2016-2018 is in table 1 below.

Table 1: Port Arrivals, Ship Inspections, Detentions

	2016	2017	2018
Arrivals at Australian Ports	27,512	28,502	29,094
No. of Individual International Ships	5,719	5,873	5,900
No. of Ports where AMSA undertook inspections	54	54	51
Port State Control Inspections on foreign-flag vessels	3,675	3,128	2,922
Individual Ships Inspected	3,271	2,800	2,616
Port State Control Detentions	246	165	161
Flag State Control on Australian-flag vessels	82	78	71
Flag State Detentions	1	4	1
Other inspection types on vessels of any flag*	4,811	4,102	1709
Incidents reported to AMSA^	2,706	3065	3193
<small>*Other types of inspections include Bulk Cargo Inspection, Cargo Gear Inspection, Cargo Securing Inspection, Category X Cargo Pre-wash Inspection, CIC Inspection, Container Inspection, Dangerous Goods Inspection, Determination Inspection, Exemption Inspection, FIC Inspection, Grain (Shipboard) Inspection, Grain Assessment Record, In-transit Fumigation Inspection, Livestock High Mortality Investigation, Livestock Inspection, OH&S Audit, Seaworthiness Inspection, Survey and Towing Inspection. ^Incidents = collisions, deaths, injuries, close quarter situations and pollution events reported to AMSA under Navigation Act and Marine Orders – the majority of these are of minor severity and a few are erroneous reports.</small>			

AMSA applies PSC inspection rate targets based on calculated risk of detention. The risk factor takes into account criteria such as, ship type, flag, age and inspection history. This has allowed AMSA to more efficiently target higher risk ships.

The oversight of shipping around the Australian coast has increased through better monitoring technology. Technologies such as Inmarsat polling, automatic identification systems (AIS), satellite AIS and shore-based radar deliver a clear representation of ships in Australian waters. In addition, the level of ship incident, breakdown and stoppage reporting has increased significantly in recent decades as a result of AMSA's efforts. This allows far greater monitoring of ship activities than ever before and this

information is used to assist in the targeting of ships for inspection based on not only historical data such as inspection history but also based on recent operational activities.

Ships can be issued with deficiencies where they are found to be in breach of Convention requirements or poorly operated. Ships are detained should deficiencies be identified which render them sub-standard or unseaworthy.

Where a review of performance identifies that ships or companies pose an increased risk to the safety or welfare of seafarers, or jeopardise the protection of the environment, AMSA may issue a Direction Notice under the *Navigation Act 2012*. This notice can deny a ship access to Australian ports for a specified duration or require that the ship meet specific requirements when approaching or using Australian ports.

The duration that a ship is refused access is escalated for repeated non-compliance. Direction Notices have been issued by AMSA that refuse ships access for a period of up to 12 months. Prior to the introduction of the *Navigation Act 2012* the ability to ban a ship from Australian ports had not existed in Australian maritime legislation.

AMSA actively participates in developing guidance on the conduct of PSC inspections at the IMO to enhance consistency in the conduct of inspection, recognition of deficiencies of a ship, its equipment or its crew, and the application of control procedures. AMSA was instrumental in the development of the IMO Resolution on the Procedures for Port State Control (Resolution A.1119 (30)) which defines how PSC is conducted around the world.

PSC is an effective means of ensuring safe shipping internationally. However, it does not negate the need to effectively foster a safety culture by responsible owners/managers on ships under their control and the oversight of those ships by the flag State under international convention requirements.

Maritime Labour Convention (MLC)

The MLC sets out the minimum employment and living standards on board ships for seafarers including:

- minimum age, medical fitness, training and recruitment;
- conditions of employment, including pay, hours of work and rest, entitlement to leave, repatriation, compensation and access to training;
- accommodation, recreational facilities, food and catering; and
- health protection, medical care, welfare and social security protection

The MLC applies to international vessels visiting Australian ports and RAVs with a gross registered tonnage of greater than 200 tonnes. The MLC is implemented in Australia through the *Navigation Act 2012* and *Marine Order 11 (Living and working conditions on vessels) 2015*.

AMSA monitors compliance with the minimum requirements of the MLC through its port and flag State inspection regimes of foreign and Australian flag vessels.

In 2018, AMSA received a total of 177 complaints (compared to 146 in 2017) relating to alleged breaches of the MLC. These complaints originated from a number of sources, including seafarers themselves, other government agencies, seafarer welfare groups, seafarer representative bodies, ship pilots and members of the public with a vested interest

in the welfare of seafarers. Following investigations of the complaints received, deficiencies were issued against 30 vessels and 19 vessels were detained for MLC related breaches arising from the investigation of complaints and programmed initial PSC inspections.

(e) Environmental sustainability

The *AMSA Act 1990* sets out our role in protection of the marine environment from pollution from ships and other environmental damage caused by shipping. Obligations to implement standards to prevent pollution from ships are set out in IMO conventions, most notably the International Convention for the Prevention of Pollution from Ships (MARPOL).

AMSA's objective is to minimise the impact of shipping on the environment and the impact if marine pollution incidents occur by:

- maintaining a regulatory system consistent with international standards;
- influencing the development, implementation, monitoring and enforcement of international environment protection standards and the operation of international liability and compensation schemes;
- providing timely and appropriate response to marine casualties; and
- providing ship-sourced pollution response services, consistent with international and regional obligations.

AMSA also manages the National Plan for Maritime Environmental Emergencies and works with state/territory governments and shipping, ports, oil, salvage, exploration and chemical industries, emergency services and fire brigades nationwide. AMSA designates local authorities and maintains marine oil and chemical spill contingency plans; detailed state, local and industry contingency plans; strategically positioned response equipment; and a national training program. An overview of marine environment incidents is in table 2 below.

Table 2: Marine Environment/ Pollution Incidents

Marine Environment/ Pollution Incidents	1 January – 31 December 2018
Reported marine incidents received (machinery and/or main engine failures, fires, groundings, flooding or collisions)	1140
Oil Pollution Reports Received	154
Oil Pollution Reports Confirmed as Ship Sourced	114
Chemical Spills	4
Operational Response (Pollution and Salvage) Required (AMSA)	75
Oil Spill Equipment Stockpiles (ie, containment booms, oil skimming systems, dispersants and waste oil storage equip) are located at Sydney, Melbourne, Devonport, Adelaide, Fremantle, Dampier, Darwin, Townsville and Brisbane.	

AMSA has focused on the international efforts to reduce the impact of emissions from ships includes a reduction in the in amount of sulphur permitted in a ship's fuel oil from 3.5% m/m to 0.5% m/m from 1 January 2020. This new limit aims to reduce the impacts of sulphur oxide and particulate matter (PM) emissions on the environment and human health, particularly for people living in port cities and coastal communities. AMSA is engaging with the shipping industry, ports, marine fuel oil suppliers and relevant commonwealth and state governments on this new requirement.

In the lead up to 1 January 2020 a focus for AMSA will be promoting compliance with the new requirements. This includes compliance activities associated with the use of exhaust

gas scrubbers. AMSA is also considering tools to support compliance monitoring such as enforcement frameworks and tools associated with the use of compliant fuel oil such as hand-held analysers.

(f) Workforce development

Seafarer training

AMSA recognises that maintaining a maritime industry requires access to maritime skills. Australia needs to increase the number of qualified mariners to meet the needs of the maritime and dependent sectors such as off-shore work, tourism, fishing, and research. This is relevant not only on the water but in shore-based roles such as harbour masters, surveyors and indeed regulators like AMSA.

Maintaining a trained seafarer workforce requires appropriate standards, forecasting of future training needs and an ability to anticipate advances in technology and the corresponding skills and expertise for seafarers and an ability to adapt to technological change.

To do this, significant planning is needed. New seafarers take years of training to achieve necessary sea-time, competencies and experience across various operations – and this is particularly lengthy for the most highly skilled roles.

AMSA is currently working with industry on ways to maintain a workforce of trained seafarers now and in the future.

Maritime Qualifications

AMSA issues maritime qualifications the crews of Australian ships operating under the *Navigation Act 2012*. This is done in line with Australia's obligations under the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (the STCW Convention).

AMSA's Seafarer Certification Service delivers services for Australian seafarers, with near coastal and international qualifications, under both the *Marine Safety (Domestic Commercial Vessels) National Law Act 2012* and the *Navigation Act 2012*. Tables 3, 4, and 5 below give an indication of the numbers of seafarer certificates issued in Australia although it is worth noting when interpreting the data that there are two types of certificates for domestic seafarers, under the National System seafarers are issued certificates with an expiry date (table 3), and under the former regime, certificates issued did not have an expiry date (table 4).

Table 3: Domestic active certificates

Engineering certificates	11342
Deck certificates	12673
Dual	13480
Total	37,495

Table 4: Domestic perpetual Certificates of Competency

Coxswain Grade 1 NC*	754
Coxswain Grade 1 NC* Restricted	14435
Engineer class 3 NC*	23
Marine Engine Driver Grade 1 NC*	68
Marine Engine Driver Grade 2 NC*	330
Marine Engine Driver Grade 3 NC*	2095
Master (inland waters)	23
Master <24 m NC*	7706
Master <35 m NC*	3266
Master <80 m NC*	438
Total	29,138

Table 5: International STCW Certificates of Competency

Deck certificates (active)	
Certificate of Competency	2840
Certificates of Recognition	282
Engineering Certificates (active)	
Certificate of Competency	2006
Certificates of Recognition	215
Integrated Ratings (active)	
Certificate of Proficiency	2838
Certificate of Recognition	9
Catering (active)	874
Total	16,170

Marine Order 505 (Certificates of competency)

AMSA is reviewing Marine Order 505, which sets out the standard for certificates of competency for masters and crew of domestic commercial vessels. The changes are in response to feedback from stakeholders who have indicated the qualifications framework is complex and the structure of the legislation, regulations and standards is difficult to understand. AMSA will consult industry on any changes to Marine Order 505.

Coastal Pilots

Under Great Barrier Reef Marine Park legislation, vessels over 70 metres in length, loaded oil tankers, loaded chemical carriers and loaded liquefied gas carriers (irrespective of length) are required to embark an AMSA-licensed coastal pilot when transiting through coastal pilotage areas in the northern part of the Great Barrier Reef Marine Park. The same system extends into the Torres Strait. At the end of 2018 there were 84 active licensed coastal pilots.

Coastal pilots and coastal pilotage providers are licensed and regulated by AMSA consistent with Marine Order 54 (Coastal Pilotage) 2014. The Marine Order requires prospective pilots to obtain a trainee pilot licence. To obtain a trainee pilot licence the applicant is required to hold an unlimited Masters qualification, as well as have 36 months of qualifying sea service as Master; navigating officer in charge of a watch; or a pilot on a vessel of at least 500 gross tonnage.

The qualifications and experience needed means that the majority of applicants to become a coastal pilot are in the latter part of their career. The steps to progress from holding a trainee pilot licence to a restricted and unrestricted pilot licence are defined in Marine Order 54, and include the number of voyages to be performed and exams / check voyages (voyages under evaluation) to be undertaken.

Statistics show that it takes an average of 18 months for an applicant to progress from a trainee pilot to hold an unrestricted pilot licence. A pilot licence is valid for two years.

AMSA reviewed the requirements for renewing a coastal pilot licence in January 2019, following consultation with the industry and recommendations from recent safety investigations.

The new Coastal Pilot Continuous Development (CPD) is based on dedicated simulation training to be conducted every two years, and completed by practical activities. Coastal pilot passages and licenced pilots are outlined in table 6 below.

TABLE 6: COASTAL PILOTS & PASSAGES

	1 January – 31 December 2018
Coastal Piloted Passages~	5221
Licensed Coastal Pilots (active)	84
<p>Vessels that are required to report to Reef VTS are vessels 50m or more in length, all oil tankers, liquefied gas carriers, chemical tankers and ships which are towing or pushing, or being towed or pushed). Other vessels which transit the REEFVTS area may report on a voluntary basis.</p> <p>~Coastal Piloted Passages are those in Marine Order 54 and include transits conducted throughout the Great North East Channel, Torres Strait, Hydrographers Passage and Inner route pilotage areas, including transits via One and a Half Mile passage through the GBR Marine Park.</p>	

(g) Port infrastructure, port services and port fees and charges

Port waste reception

Australia has an obligation under the International Convention for the Prevention of Pollution from Ships (MARPOL) to provide adequate waste reception facilities for ships' waste. The provision of such facilities reduces the likelihood of illegal disposal of waste at sea.

Ports and port related facilities, are the responsibility of the states and the Northern Territory, noting however that many ports themselves are managed as private commercial enterprises. There is currently little regulation to ensure port management/authorities provide adequate waste reception facilities for ships. Some ports have reception facilities established in the port, however the majority of ports rely on the ships engaging directly with commercial contractors, with the only role of the port being to facilitate access for the contractor to the ship. This, along with Australia's biosecurity laws (which require specific handling and disposal of waste from international ships) has resulted in Australia having some of the most expensive disposal services in the world. This can be cost prohibitive and act as a disincentive for ships to discharge their waste in Australia in accordance with international obligations. This in turn impacts our reputation internationally and potentially increases pollution risk to Australian waters.

AMSA suggests that a consistent national approach to the provision of waste reception services in ports will assist in Australia meeting its international obligations. Consideration of options such as the incorporation of waste disposal costs in berthing fees could reduce

disincentives for ships to dispose of waste appropriately when operating in Australia. This approach may will further assist in addressing our growing marine litter problem, and improve the protection for Australian waters.

Shore Power

International efforts to reduce the impact of emissions from ships includes a reduction in the amount of sulphur permitted in a ship's fuel oil from 3.5% m/m to 0.5% m/m from 1 January 2020. In addition the International Maritime Organization (IMO) is working towards a reduction in Green House Gas (GHG) emissions by at least 50% by 2050 compared with 2008 levels with a view to decarbonisation by the end of the century.

A potentially significant means of reducing emissions from ships when in port is cold ironing, also known as alternate marine power or onshore power. Cold ironing allows ships at berth to disable their on board engines and use more efficient domestic onshore power. This reduces sulphur and nitrogen oxides emissions as well as reducing the impact from particulate matter released from the ship's exhaust. There is a human health benefit with a reduction in both emissions and noise in the immediate vicinity.

The provision of onshore power may also result in a significant reduction in GHG emissions depending on the efficiency of the onshore power supply and the use of renewable energy sources. The infrastructure investment can be significant but environmental and human health benefits would be recognised over the long term.

Internationally, there are some ports in Europe and North America successfully using onshore power. The Port of Los Angeles will require 80% of fleet calls to use onshore from 2020 in order to achieve the GHG emission reduction. Australia has an opportunity now to consider the future potential and benefits of onshore power.

Vessel Arrival Systems and port infrastructure

GHG emissions can also be achieved through an increase in the efficiency of vessel movements and port calls. Optimisation of vessel speed *en route* can reduce emissions significantly through reduced fuel consumption. Speed optimisation can also potentially increase safety of mariners and reduce underwater noise and marine fauna strikes. Similarly, optimising vessel arrivals and movements in port, primarily through reducing time in port and at anchorage, can significantly reduce ship emissions, which account for a significant percentage of overall ship emissions. These efficiencies also have potential benefits through reduced chronic impacts from discharges into the sea from ships waiting at anchor.

For Australia, increasing the efficiency of vessel movements and port calls could be a highly effective means of achieving emission reductions with minimal impact on Australia's trade competitiveness. These efficiencies should be closely examined to ensure Australia can capitalise on them.