



Logistics Industries ENVIRONMENTAL SCAN

Maritime



Maritime



This page has been intentionally left blank

Overview

In WA where over 95% of imports and exports are transported by sea any shifts in global trade have a profound effect on shipping and associated industries. Limited on-board places for the training of seafarers has become more pronounced due to a severe reduction in the movement of Australian flagged ships in and out of Australian waters and the significant increase in wages growth making Australian shipping uncompetitive. The significant reduction in the number of Australian-owned ships over the last decade has contributed to the limited number of seafarer training positions on board Australian ships. Ship owners globally continue to register ships in 'ports of convenience' and, in most cases, source seafaring labour from those regions. There is a general shortage in the industry due to a previous lack of commitment from the industry to train; an ageing workforce and a significant increase in the work available.

Whilst Australian-trained maritime officers and engineers are still sought after internationally, the provision of integrated ratings and other able seamen is often driven by shipping agents seeking to gain the best competitive position by using overseas labour. This is not deemed acceptable for many within the sector, as it does not place Australian marine professionals as the employees of choice. There is also expected to be a shortage of marine pilots as the shipping industry picks up.

Predicted strong demand for seafarers arising from new investment in offshore oil and gas projects will also intensify the need for qualified personnel. It is anticipated that most of this training will occur at the new entrant level, with up-skilling of the existing workforce following current trends. However, access to sea time will still be a major barrier to the successful training of workers, and a greater focus on simulation will need to be investigated.

There will also need to be a big commitment by the Government and industry to invest in training, especially if the proposed new aligned training qualifications become available.

Trends Analysis

There has been major growth in coastal marine occupations, particularly in marine tourism, chartered vessel operations, public ferry transport, coast guard and emergency services and marine services to the oil and gas industry, as well as increases in the size and complexity of vessels.

Growth in export volumes, including a rise in containerised and non-containerised trade, will increase demand for international sea transport. Increased demand relating to growth in tourism is projected, which includes passenger cruises and coastal maritime operators. New investment in offshore oil and gas projects will also intensify the need for qualified seafarers.¹

A surge in Offshore projects has put the industry at capacity. This includes Captains, Chief Mates, 2nd Mates, Deck Officers, and Deck Watchkeeper. For an Integrated Ratings to become a Deck Watchkeeper it takes four years and costs the company approximately \$250,000, provided they are able to get the sea time done quickly, otherwise it takes longer. 457 visas can be used to make up the shortfalls, but should only be a short term solution for when the high demand exists. There needs to be more investigation into the peaks and troughs that dominate the industry, to ensure the right numbers of mariners are trained for the jobs required. To attract younger workers, industry need to give them time at sea, but

there isn't enough space on boats. Although persons as young as 16 years can do sea time they are not permitted to share a cabin, with 18 years the best age. These trainees cope better away for longer periods and are able to share cabin space, a premium commodity on vessels at sea. Cadets who fund their own training to get the 1st ticket are almost guaranteed next ticket funded.²

Cyclical nature of projects causes peaks and troughs. As Industry has stated, 'Don't train to peaks, due to unemployment in troughs. Rather, focus on the mid-line for optimum employment and use the 457 visa system as a top up when required.' Maritime industry has a high turnover due to long periods away from home. 457 visas should be tied to the vessel, as opposed to the employer.³

Another strategy would be for Government to look at State Shipping Projects for berths on vessels, as cadets need to have breadth of vessel types to acquire the appropriate skills.

More integration of vessels within wider supply chains – multimodal freight transport, tourism, emergency services, integrated passenger services, has also occurred.

- International (cargo ships)
- Coastal, inland water transport of passengers or freight (ferries, charter)
- Pilot and tugboat operations
- Port authority serviceⁱ
- Vessels supporting the offshore oil and gas industry.
- Partial coverage over the fishing industry. The fishing industry is also covered by the seafood industry training package for vessel operations.

Up and Down Stream Sectors

- Oil and Gas Production
- Iron Ore Mining
- Shipbuilding
- Marine Cargo Handling

International Water Transport

This industry operates vessels for the transportation of passengers or freight by sea between domestic and foreign ports. The high percentage of service imports as a proportion of demand reflects the dominance of foreign flagged ships servicing Australian ports. The primary activities of companies in this industry are:

- Freight transport service (international sea transport)
- Ocean cruise services (between domestic and foreign ports)
- Passenger transport service (international sea transport)
- Ship management service for international sea transport (ie operation of ships on behalf of owners)

ⁱ See Stevedoring and Ports for more information

Coastal Water Transport

Companies in this industry operate vessels for the movement of passengers or freight by sea between domestic ports. This also includes companies involved in chartering or leasing ships with crew, for any period, for use in coastal sea transport. The primary activities of companies in this industry are:

- Crewed boat charter, lease or rental for the purpose of coastal water transport
- Freight transport service on coastal sea transport routes
- Island ferry operation in coastal waters
- Ocean cruise services between domestic ports
- Passenger transport services (coastal sea transport)
- Crewed ship charter, lease or rental for the purpose of coastal sea transport
- Ship management service for coastal sea transport (ie operation of ships on behalf of owners)
- Vehicular ferry operation in coastal waters

Inland Water Transport

Organisations in this industry operate vessels which transport freight or passengers in harbours or inland waters (except tug boats or lighters). The primary activities of companies in this industry are:

- Cruise operation (river, harbour or lake; with or without restaurant facilities)
- Freight transport service (river, harbour or lake)
- Passenger ferry operation (river, harbour or lake)
- Passenger transport service (river, harbour or lake)
- Water taxi service (river, harbour or lake)

Marine Transport Professionals⁴

Marine transport professionals control and manage the operations of ships, boats and marine equipment.

Job Titles

- Master Class 4 and 5 - Trading or Fishing
- MED 1 to 3 for smaller Coastal Shipping
- Engineer Officers
- Master Class 1
- Master above or below 3000GRT
- Ship's Officers – Chief Mate and 2nd Mate
- Ship's Surveyor
- Marine Transport Professionals

Job Prospects

Offshore marine professionals are the largest group employed within the marine transport sector, with the following affecting them the most.

- The majority of persons employed, while maintaining an average of working hours that indicates the equivalent of FTE, are in fact casual due to the nature of the work. There

are approximately 12 companies active in the industry in WA and they are a pool of labour for the employers or marine professionals.

- Employment for marine transport professionals to 2012-13 is expected to remain steady, but with very small occupations employment estimates can fluctuate. This is because the economic downturn did not impact as strongly on this sector as any projects, especially in the oil and gas sector, were already committed during this period.
- It is expected that there will be an upturn in work within the next 12 months, which will put significant pressure on the need for continuing training during a period where space to do so is extremely limited.
- There will be significant shortages over the next couple of years which cannot be easily filled due to the long lead time to produce professionals, eg three to four years.

Deck and Fishing Hands⁵, Integrated Ratings

New investment in offshore oil and gas projects will intensify the need for qualified seafarers. A recent DEEWR survey reported that many seafaring employers in the offshore oil and gas sector expect to increase their workforce by up to 39 per cent. More than half of the surveyed employers said the cost of training entry-level seafarers was a significant issue, along with seafarers leaving during or immediately after the completion of training. Integrated Ratings have the highest turnover, mainly due to changing roles within the industry.⁶

Marine Engineers, Officers, Pilots and Captains

The skill shortage in this occupation is related to a global shortage of Marine Officers and Engineers. It has been estimated that there will be a global officer shortfall of about 43,000 in 2013. The overall shortage of Marine Officers is more acute in technical maritime occupations, including Marine Engineers, Marine Pilots and Ship's Captains. One of the key challenges for Marine Engineer training, like many other maritime occupations, is that the trainee needs an industry sponsor, which includes employment and time spent upon a ship. There are a limited group of shipping companies that do offer training to Marine Engineers and they are inundated with requests from job/career applicants.⁷

Regulatory requirements

Maritime crews operating in international waters (eg crew on international cargo ships) are regulated by the Australian Maritime Safety Authority which administers the Seafarers' Training, Certification and Watchkeeping Code (STCW 95).

Marine crew operating in coastal waters (eg ferries, charter and fishing) are regulated by the Department of Transport (Commercial Vessel Safety Branch) in accordance with the United Shipping Laws (USL) Code.

Marine crew operating in the offshore oil and gas industry (eg tugs, support vessels, barges, rigs etc) are primarily regulated by:

- Australian Maritime Safety Authority (primary regulator)
- Department of Mines and Petroleum
- Department of Transport (Commercial Vessel Safety Branch)

- All marine crew working in port are also regulated by WorkSafe WA.

Demographics of Workforce

Gender

Although there was slight growth in the female workforce, this was offset by a decline in females working in the sector part-time. The maritime sector is a very male dominated industry, with approximately 96% male workers. This stems from a long history of men at sea, with women not entering many maritime professions until the last few decades, when accommodation on vessels became more conducive to a female presence.⁸

Age Profile (per cent share)

The average age for Marine professional is 44, with the first big influx of new entrants not occurring until they are in their mid 20s. This is in part due to the difficulty in entry for younger people, but can also be attributed to the industry's perception of a need for a more mature worker who is prepared to spend long periods at sea. Only 3% of the workforce is aged below 25yrs, while 73% are aged between 35-54 yrs. Due to the ageing demographic of workers, and with very few under the age of 25, this could have a major impact on the workforce, especially as nearly a quarter of the workforce is nearing retirement age.⁹

The ageing of the seafarer workforce is a significant issue. Employers surveyed by DEEWR reported that up to 44 per cent of their seafarer workforce was aged 45 years and older (and therefore approaching retirement). This compares with 38 per cent of the Australian workforce overall. The age profile can only be addressed by a substantial increase in training of new entrants, especially in technical occupations. Training of engineers is costly, especially so if they leave a company on completion of their training for more lucrative opportunities. It is envisaged that the new National Law will enable workers to move between vessels and up the career ladder with more ease, so some of those younger deck and fishing hands may be able to take up some of the vacancies.¹⁰

Impact of Globalisation

Skilled personnel in marine occupations are being attracted to overseas maritime operators, creating a training demand on top of projected employment growth. There has been an increase in international seaborne trade. Australia's increasing reliance on oil and other imports has increased maritime trade.

There has also been an increase in the activity of vessels, with an increased demand for machinery, portable housing and other equipment for the many mining projects that are under construction being sourced overseas, which is increasing the volume of imports into WA, mainly through Fremantle.

Impact of Government Policy/Decisions

Following further consultation with industry and governments over the past year, AMSA have abolished plans to re-write Marine Orders 3, known as the Tinny to Tanker project, and are instead establishing a National Regulator who will administer the new proposed National Law.

The National Law is intended to replace the current State and Territory laws governing the safety of commercial vessel operations. As such, the National Law is being developed using State/ Territory maritime safety laws as a base. Under an agreement with the States and Territories, the Commonwealth intends to pass the National Law and this will be applied by separate legislation in each State and Territory to ensure national coverage. This will ensure that any standards or rules applied under the National Law, or any subordinate legislation such as regulations and marine orders, have consistent effect throughout the country.

The National Law will establish AMSA as the National Regulator responsible for the development and implementation of commercial vessel standards nationally. The National Law will allow certain functions to be delegated from AMSA to State and Territory maritime safety agencies. The arrangement will implement the agreement by Transport Ministers whereby the day to day interaction will be between the commercial vessel industry and State and Territory officials as delegates of the national regulator.

The National Law, regulations and Marine Orders will implement requirements for vessel construction, operation, crewing, crew qualifications and safety equipment. The National Law is designed to provide a framework for the development and application of consistent national standards relating to the operation of commercial vessels. The intention is that it will apply the National Standards for Commercial Vessels (NSCV) throughout Australia. The NSCV is a set of commercial vessel standards that have been developed by all transport agencies and agreed by Transport Ministers.¹¹

From January 2013, the way commercial vessel safety in Australia is regulated and operated will change in three ways:

- A proposed Marine Safety (Domestic Commercial Vessels) National Law Act will apply to operations of the domestic commercial vessel fleet;
- A National System for Commercial Vessel Safety (National System) will operate in all states and territories;
- The Australian Maritime Safety Authority (AMSA) will become the National Regulator of the National System.

The benefits of the proposed National System will be:

- A simplification of maritime safety laws;
- The clear and consistent application of nationally agreed standards across the country; making it easier for seafarers and their vessels to work and move through the nation without barriers;
- A uniform approach to safety requirements.

Other current Government policies or decisions impacting on the Maritime Sector include:

- Introduction of recreational skipper's ticket has resulted in more training in the industry, but without formal qualifications.
- Reduction in the number of fishing licences granted, restrictions on catches, sizes etc
- Dredging of ports (eg Fremantle)
- Expansion and plans for new ports such as Oakajee.

Technological

The trend is towards larger horsepower vessels with more complex navigation and control technology, requiring higher-level skills and upskilling of existing personnel.

New technologies are an issue, as local mariners are not as exposed to opportunities to train up. 457's may have skills but need to pass on to local workers to upskill current workforce – a government strategy that would ensure a viable future for the industry and its workforce.

Economic Drivers

These include the cost of fuel, costs and staffing related to compliance with regulatory requirements. The annual domestic shipping task is increasing to an estimated 26.6% by 2013. The increasing demand for shipping services, especially connected to the mining sector, will continue to push the need for a strong industry and have an impact on costs. There is a critical seafarer labour shortage with the potential to disrupt the price and labour and development of Australia's energy resources. There is evidence that the existing pool of skilled workers is not sufficient to handle the magnitude of expansion in port facilities and cargo throughput over the next 10 years. Competition for limited skills has resulted in employee poaching and inflated market wages to attract labour.¹²

Size and Distribution

Shipping accounts for 99% of Australia's international trade. In 2008-09, WA handled more than half of the nation's total trade tonnage. Approximately 40% of activity in the offshore marine (oil and gas) sector is based in WA. The sector employs approximately 2,500 staff hired directly to the vessels operating in the area and supports more than 10,000 staff in affiliated areas.

Approximately 40% of activity in the Offshore Marine (Oil and Gas) sector is based in WA. The sector employs approximately 2,200 staff hired directly to the vessels operating in the area and supports more than 10,000 staff in affiliated areas.

Eight multi-user port authority ports and eight non port authority ports, which for the most part, contain port facilities dedicated to the export of a single commodity by a single operator, are located along 12,500 kilometres of the Western Australian coastline. They handle over 4,000 international trading vessels plus thousands of interstate, intrastate, fishing and recreational vessels every year.

The Port of Fremantle is the capital city port of WA and handles 83% by value of WA's seaborne imports and 25% of WA's seaborne exports, whilst Port Hedland and Dampier are amongst the highest tonnage ports in the world. There is expected to be a significant growth in ports with the planned new facility at James Price Point; the Oakajee Project; expansion of the port at Port Hedland; port development at Cape Preston, about 70 kilometres south west of Dampier; Mount Anketell, which is located within Port Walcott; Ashburton North, which is within the Port of Onslow and the Gorgon gas project on Barrow Island.¹³

Main Employing Industries

The increased demand for workers in the oil and gas sector has seen a shift of focus on the maritime workforce, with fewer deck hands working in the fishing sector. This trend is expected to continue due to the number of new oil and gas projects coming on line in the next couple of years and the restrictions placed on the fishing sector by the Government regarding size of catches.

WA is the third largest employer by State of marine transport professionals, and follows Queensland and NSW for the employment of deck and fishing hands. This could change as a renewed freight effort is occurring and the fishing industry drops off to be replaced by the increasing demand from the offshore sector for skilled marine workers.

Regional Activity

Much of the maritime sector activity occurs throughout the regional ports and as a result of the offshore oil and gas activity. The many projects, both planned and underway include the following:

- Dampier Salt intends to increase annual salt production, which will result in an increase in the size of bulk carriers loading at Cape Cuvier shiploading facility, which in turn will mean larger, more powerful tugs will be required to manoeuvre carriers at the mooring buoys. A new tug berthing facility will be built within the small boat harbour and third tug purchased.¹⁴
- The Pilbara also services the largest known oil and gas reserves in the Carnarvon Basin, with key oil and gas projects including the following:
 - North West Shelf – the State's largest hydrocarbon export project, operated by Woodside
 - Woodside Pluto project – process oing gas from the Pluto and Xena gas fields, with the first LNG cargo from Pluto estimated for March 2012.
 - Gorgon Project – on schedule to produce and export LNG at its processing plant on Barrow Island. Production is anticipated to commence in 2014 and end between 2054 and 2074.
 - Wheatstone Project – LNG and gas project developed by Chevron Australia, and supplied from the Wheatstone and large off-shore gas fields¹⁵

Note: The massive Port activity expected to occur over the next 5 years will also impact heavily on the maritime sector, as with increased capacity at the ports, more maritime workers will be required to service it.

Sustainability

Ships are the least energy intensive of all the transport modes: shipping currently contributes just 4% of the greenhouse emissions from the Australian freight transport system.¹⁶

The shipping industry has high fuel efficiency and low greenhouse gas emissions on a tonne per kilometre basis. The cost of maintaining shipping lanes is negligible.

Qualification Profile of Workforce

Training is predominantly driven by regulatory requirements. The ferry and charter boat sector does not have a strong training culture except to meet regulatory requirements.

Whilst public providers traditionally focussed on providing theory as required by the regulators, current training package regulations required training providers to become involved in the practical component.

The current Maritime Training Package does not address job roles or occupations, and is in the process of being overhauled. This will be completed in 2012/13 when the new National Law is endorsed.

As the Regulator oversees the training that is delivered, there has occurred a disconnect between the training and the national training package that services the sector, with many State differences occurring. This has led to many state-based courses being delivered against the regulatory requirements. Currently, work is being done to harmonise the qualification system, as the current training package does not address job roles or occupations and the regulators and training package developers are in discussion to align qualifications to licences across Australia. This is all part of the new National Law Project, and it is hoped that as the Marine Orders 3 are implemented, the qualifications system will align perfectly with them.

The ability to move towards a more flexible model that allows for recognition of prior learning will be vital for the industry.

Educational Attainment

Marine transport professionals are generally more highly qualified workers as they progress through training to become ship's masters etc. However, deck and fishing hands are predominantly not formally trained, but access skills through time spent at sea. However, the new National Law is expected to create a pathway for deck and fishing hands which will involve a formal qualification. It is also expected that greater alignment will occur with the proposed new Maritime Training Package Qualifications with more workers attaining qualifications as they progress through their regulatory requirements.

Social Impact

When compared to other industries, maritime workers experience the greatest impact on their lives due to the long periods of time at sea, unsocial working hours, and remote operating locations, especially in the oil and gas sector. Many companies have reduced time away and offered more rotations to ensure family lives are not as disadvantaged as they

were in the past, where it was quite usual for a mariner to be at sea for 12 months or more. Rotations now tend to be discussed in terms of weeks rather than months, which has made the work more attractive and less impacting.¹⁷

Critical skills shortage occupations

Master Fisher - Skipper
 Ship's Engineer
 Ship's Master
 Integrated Rating
 Deck Hand
 Deck Officer/Ship's Officer
 Marine Engineer
 Ship's Captain/Ship's Master
 Deck Hand/General Purpose Hand/Integrated Rating
 Maritime Trainer/Assessor

Reference – End Notes

-
- ¹ TLISC – www.tlisc.org.au
² Industry Stakeholder Consultation
³ Industry Stakeholder Consultation
⁴ Australian Government. (2011) Job Outlook – www.joboutlook.gov.au
⁵ Australian Government. (2011) Job Outlook – www.joboutlook.gov.au
⁶ TLISC 2011 Environmental Scan– www.tlisc.org.au
⁷ TLISC 2011 Environmental Scan– www.tlisc.org.au
⁸ Source: ABS Labour Force Survey, Australia (cat. no. 6203.0) - average 2009
⁹ Australian Government. (2011) Job Outlook – www.joboutlook.gov.au
¹⁰ Australian Government. (2011) Job Outlook – www.joboutlook.gov.au
¹¹ www.nationalsystem.amsa.gov.au
¹² TLISC – www.tlisc.org.au
¹³ Department of Transport
¹⁴ Gascoyne Development Commission, Gascoyne Development Plan 2010-2020
¹⁵ Department of Regional Development and Lands, Pilbara: a region in profile 2011
¹⁶ TLISC – www.tlisc.org.au
¹⁷ Industry Stakeholder Consultation