

# AUSTRALIAN MARITIME WORKFORCE DEVELOPMENT STRATEGY

Prepared by the Maritime Workforce Development Forum, May 2013

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## INTRODUCTION BY THE CHAIRPERSON

This is the first national workforce development strategy prepared for the Australian maritime industry. It has been put together by the Maritime Workforce Development Forum, a maritime industry body working together to secure the future of the Australian maritime sector.

The strategy sets out some clear directions for the maritime industry workforce and establishes a national focus for the industry to take them forward.

The aim of the Australian maritime workforce strategy is to grow Australian maritime capability in order to protect national security and promote trade and economic growth.

The strategy's recommendations set out a plan for reform and transformation of maritime workforce arrangements. They include:

- further development of the data holdings on the workforce, with the conduct of a biennial census of the workforce and the development of an independently managed national demand aggregation model;
- a training target for new entrants to the maritime industry. The initial target is 545 new entrants in the first year and 505 a year thereafter. The target is made up of 225 integrated ratings, 200 engineer officers and 120 deck officers in the first year and 80 a year thereafter;
- increased efforts to integrate training college arrangements consistent with the current Memorandum of Understanding between the colleges, through the development of a 'virtual' national maritime training college and associated pooling of continued higher education, VET and other funding for maritime education, course and training integration;
- Government support for entry level training of \$10,000 a year for each integrated rating trainee and \$20,000 a year for each deck and engineer officer trainee;
- introduction of a new entrant training obligation for the entire maritime industry (except the Navy) and associated resource installation activities of 2% of the relevant payroll. Where firms fail to provide 2% of their payroll in training, they would need to provide the balance to a not-for-profit entity that would create a funding pool which would be redistributed to other industry players to fund entry level training to meet the training targets;
- a training partnership between the Navy and the commercial sector to provide additional sea time training berths for the commercial sector and more Navy reservists;
- seed funding from the Government to facilitate the implementation of a number of elements of the strategy;
- establishment of an Australian maritime cluster; and
- a number of other recommendations in relation to implementation, collaboration across the sector, and further work.

It is clear that the strategy is quite significant in both its scope and potential to transform the maritime workforce. Some of the recommendations will require regulation or Government financing, and all will require industry goodwill to operationalise them.

Everyone in the maritime sector will need to commit to the strategy and I encourage them all to read, discuss and work together to achieve it.

When the Minister for Infrastructure and Transport, the Hon Anthony Albanese MP, established the Forum he said that he wanted us to shape the strategic responses to the skills issues facing the maritime industry, and to build strategic and productive working relationships across the maritime and training sectors. He asked us to deliver a minimum training requirement, an agreed skills and training data set, and a workforce plan. I believe that we have done that.

The Minister has been a great supporter of this Forum and of the maritime industry in this country. The Forum thanks him for his continuing interest and enthusiasm to get things done.

I would like to put on the record my appreciation of the commitment, hard work and good spirit shown by all members of the Forum throughout this process. It has been delightful to see them coalesce around this national maritime industry workforce strategy and to focus on growing Australian maritime capability in order to protect national security and promote trade and economic growth.

I would also like to thank the Secretariat within the Department of Infrastructure and Transport for their support, guidance and encouragement, with special thanks to Sue Skermer and Leanne Kennedy for all their commitment and hard work, and to Pauline Sullivan and Philippa Power for guiding us through the process.

A handwritten signature in black ink, reading "Lynelle Briggs". The signature is written in a cursive style with a large initial 'L' and 'B'.

Lynelle Briggs AO

## THE MARITIME WORKFORCE DEVELOPMENT FORUM MEMBERSHIP

The Maritime Workforce Development Forum was established in early 2012. Membership comprises:

Ms Lynelle Briggs AO	Independent Chairperson
Mr Tony Wilks	Deputy Chairperson, formerly of Svitzer Australia
Mr David Anderson	Ports Australia
Mr Paddy Crumlin	Maritime Union of Australia
Ms Teresa Lloyd and her representative, Ms Sarah Cerche	Australian Shipowners Association
Mr Joseph Homsey	Farstad Shipping
Dr Daryll Hull	Transport and Logistics Centre
RADM Trevor Jones, replaced in 2013 by RADM Michael Van Balen	Royal Australian Navy
Mr David Parmeter	Teekay Shipping (Australia) Ltd
Captain Dan Pearson	Australian Maritime Officers Union
Mr Terry Snee, replaced in 2013 by Mr Henning Christiansen	Australian Institute of Marine and Power Engineers

## WHY AUSTRALIA NEEDS A NATIONAL MARITIME WORKFORCE DEVELOPMENT STRATEGY

As an island nation, a strong national maritime capability is essential to promote trade, to support economic growth, and to protect Australia's maritime security and environmental interests.

The recent Australian Government shipping reform package is a significant step in that direction. The key elements of the package are regulatory change to enhance domestic shipping opportunities, taxation incentives to promote business growth and a focus on workforce development and industrial relations to improve productivity. It is the combination of these three elements—more efficient regulation, better business structures and a more productive workforce—that will secure our maritime future.

As a central part of shipping reform, Australia needs to ensure that it builds a maritime workforce that is skilled, flexible and productive, and available in numbers when needed to meet economic growth and demand. Effort needs to be put in to ensure that Australia has a practical and sustainable strategy to achieve this goal. It will not happen by itself.

In order to be able to provide quality and safe shipping services, Australia needs to preserve and grow its maritime skills base and provide sufficient numbers of qualified and certified mariners in the off shore and blue water sectors, the Royal Australian Navy (Navy), dredging, dive support, bunkering, regulators, ports, pilots and towage sectors, passenger (for example ferries, cruise and marine tourism), fishing, aquaculture, the Australian Customs and Border Protection Service (Customs) and for science and research vessels. We have to achieve this in the context of a competitive and viable domestic and international shipping sector. That is the task in front of us.

We should not underestimate the challenges in this task. The Australian shipping industry has seen a dramatic decline over the past two decades in its domestic capacity to recruit, train and employ local seafarers. Its cost structure has been too high to be competitive in international shipping, except in certain high-value cargoes, and the regulatory settings over the last 15 years that have permitted foreign ships to compete with Australian crewed ships has resulted in the country being serviced increasingly by large numbers of foreign vessels.

Australia is "running on empty" when it comes to its ability to maintain a national pool of maritime labour trained and working in Australian waters. An ageing workforce demographic, fewer and fewer Australian flagged vessels and increasing global economic pressure on labour and shipping costs mean that failure to take action now will condemn our domestic commercial maritime workforce to a recycling of labour within the existing labour market and a continuing decline in terms of numbers and skills.

More than this, in the absence of an effective national workforce development strategy that supports the shipping reform package, the Australian domestic commercial maritime workforce will inevitably shrink further if shipping companies, traders and ports come to rely on recruitment of foreign workers and Navy personnel. There is a particular danger in an emerging trend of stripping the Navy and Customs of some of their talented officers for commercial roles in related sectors, such as oil and gas, mining, as well as in coastal and 'blue water' shipping. The stripping of non-commercial maritime activities to fill commercial roles can potentially create a serious national threat to Australia's maritime security if our ability to maintain naval personnel numbers was to be permanently reduced over time. It makes a lot of sense to better integrate the workforce requirements needed to meet national defence and border protection objectives with the workforce requirements of the commercial shipping sector.

The Australian maritime workforce development strategy recognises that the maritime workforce and labour market is one of the few in the Australian labour market that is regulated under international treaties<sup>1</sup> (which for safety reasons require specified sea and other training requirements worldwide) and where demand for commercial seafarers is

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<sup>1</sup> The International Maritime Organization International Convention on Standards of Training Certification and Watch keeping for Seafarers 1978 (STCW), which is given effect through the *Navigation Act 2012* and the associated Marine Orders.

shared broadly between the off shore oil and gas industry and the remainder, which creates a labour market that lacks homogeneity and requires some unique approaches.

Imbalances in the maritime labour market need to be addressed; the strongest demand comes from the off shore sector, yet supply requires blue water ships for training berths. The contribution to the costs of training needs to be broadened from mainly blue water to a wider range of beneficiaries and users of marine skills. Efforts need to be made to better match the supply of skilled labour with demand trends and to provide for flexible labour market solutions to meet peaks and troughs in economic cycles and necessary skills requirements. Skill requirements across the maritime sector need to be “fit for purpose”<sup>2</sup>, but it is also vital that the highest level of skills and qualifications are maintained in those areas where an accident due to lack of skills and training could result in a major environmental disaster, or loss of life, or both.

All of these factors make the creation of a unified and consensual workforce development strategy for Australia a difficult task. Sectional interests tend to prevail in many situations of recruitment, training, retention and career paths. Unions and employers find it difficult to negotiate a middle way in such matters. The entire skills, training and productivity equation has become part of a bargaining process under enterprise agreements. It is often reduced to a question of industrial relations rather than business competitiveness or the national interest.

## VISION AND MISSION

If we are to create a viable and sustainable maritime workforce in Australia, we can no longer act as though the national interest is represented via sectional interests. The maritime workforce development strategy must strive to balance the needs of companies, employees and the Australian Government, on behalf of the Australian people. A cooperative approach is needed where everyone wins. We truly believe in this way “a rising tide will lift all boats”.

It is in this context that the Australian Maritime Workforce Development Strategy aims to put in place a national approach to workforce planning that:

- improves workforce productivity and shipping competitiveness;
- improves flexibility in workforce utilisation and provides quality training; and
- helps moderate the risks of investing in off shore oil and gas projects and new or replacement shipping tonnage across all sectors of the Australian maritime industry.

## THE AUSTRALIAN MARITIME INDUSTRY – A CATALYST FOR ECONOMIC GROWTH

Historically, shipping has been integral to Australia’s economic growth. The geographically dispersed colonies relied on coastal shipping for transport and communications as well as inter-colonial trading links. As the colonial economies prospered, so too did the shipping industry and port activity as they supported the growing wool and wheat export trade and facilitated the migration of settlers to Australia to pursue opportunities arising from the gold discoveries of the mid-1800s.

There have been significant changes in Australian coastal and international shipping over time. The development of a manufacturing base in Australia saw increased demand for coastal shipping services to transport raw materials and semi-finished products to new industrial centres. Road and rail have improved their competitive position, with some

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<sup>2</sup> “Fit for purpose” means the alignment of the competencies held by an individual or group with the specific needs of the role or job to be undertaken. As new roles are introduced into the sector, and as existing roles are reviewed, the Australian training system allows for new “training packages” to be designed and delivered as certified courses, to meet the need for better alignment of roles and competencies. This is commonplace across industry sectors. It ensures that new roles are assessed in terms of safe working, competencies and training needs. Technological change, job re-design and new business models are all possible reasons to ensure that a new or existing role is fit for purpose in terms of skills.

modal substitution away from shipping in coastal routes where Australian crewed ships could not compete with foreign shipping issued with permits under a generally deregulated shipping market.

However, coastal shipping still commands a sizeable proportion of the total domestic freight task, which in 2010-11 was 101 billion tonne-kilometres, or about 20 per cent of that task. Any further loss of these trades to land based modes has very significant implications for land side logistics and infrastructure. Bulk shipping has continued to benefit from its natural competitive advantage of being able to efficiently transport large tonnages over long distances. Even today, Weipa to Gladstone and Port Hedland to Port Kembla are the top two coastal freight routes, with 36 per cent of Australia's total coastal freight flows being moved on these routes.<sup>3</sup>

In addition to the coastal shipping market, Australia has become an exporter of bulk commodities. In the post war period, the development of northern Asia, specifically Japan, led to a demand for Australia's minerals—particularly coal and iron ore. In the last twenty years, the emergence of other major Asian economies, most notably China but also the Republic of Korea, India, Indonesia and other ASEAN countries has continued to fuel demand for Australia's mineral resources. Non-bulk container trade has also grown considerably, driven largely by imports. All this trade relies on shipping, yet increasingly the shipping business has gone to foreign carriers with lower cost bases.

Australia has now consolidated its global position as a major exporter of LNG, with the vast majority of this trade transported on foreign carriers. In the six years between 2011 and 2017, Australia's LNG export capacity is expected to quadruple to 80 million tonnes. A substantial portion of Australia's investment pipeline is comprised of LNG projects at both the feasibility and committed stages.<sup>4</sup> This growth has had a profound impact on the domestic maritime sector, drawing labour to the offshore industry.

The Australian shipping task represents a massive 10 per cent of the world's seaborne trade. Australia operates five of the nine largest dry bulk ports in the world, with major expansions underway at a number of iron ore and coal ports to meet future demand. Notwithstanding the slowing of the international economy over the last five years, there has been an annual growth of 8.3 per cent in the total value of international cargo handled at Australia's ports and 7.3 per cent in the total weight of these cargos. Exports by sea have grown on average by 10.7 per cent by value.<sup>5</sup> Australia is experiencing a long-term growth rate of 7 per cent which means that throughput will double over the next 10 to 15 years, which presents significant opportunities for Australian shipping.

Yet despite these developments, the domestic maritime story is one of substitution of foreign for domestic shipping. We have seen two decades of decline in Australian shipping capability and no increase in Australian content in international shipping resulting from increases in commodity exports. The two main domestic shipping lines (ANL and BHP) effectively ceased to operate on our coastal trade some years ago. The reality is international shipping lines now dominate much of our domestic trade.

Australia's domestic trade has shifted to bulk trades and services. Bulk trade requires scale which Australia does not have, and the growth in services means that Australia's economic growth is increasingly being decoupled from physical trade.

ANL and BHP were the main "incubators" for our maritime workforce, providing sea time, training and jobs for local mariners. At the very moment when economic growth provided us with employment and skills potential we let go of our core capacity to fill the need from domestic sources. In this environment there is real potential for a sensible workforce development strategy linked to economic growth and enterprise competitiveness to grow the domestic workforce in terms of numbers, skills and productivity. This is the once in a decade opportunity to get it right.

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3 Bureau of Infrastructure and Transport and Regional Economics (2012), Australian Sea Freight 2010-11 p 31.

4 Bureau of Resources and Energy Economics (2012), Resources and Energy Major Projects, October 2012 p 22.

5 Bureau of Infrastructure and Transport and Regional Economics (2012), Australian Sea Freight 2010-11.

## FIRST THINGS FIRST – WHO COMPRISES THE NATIONAL MARITIME WORKFORCE?

Before we begin to craft a maritime workforce development strategy, we need to have a clearer understanding of the numbers of people who make up the maritime workforce in Australia.

### AUSTRALIAN MARITIME INDUSTRY CENSUS 2012

Despite the best efforts of various industry players, data on the maritime industry workforce has been inadequate for a long time, making workforce planning difficult. So, in 2012, under the auspices of the Forum, the Department of Infrastructure and Transport conducted a census of the Australian maritime sector.<sup>6</sup>

92 maritime organisations with Australian Maritime Safety Authority (AMSA) certificates or equivalent qualifications participated in the census. Participating organisations represented the breadth of the maritime industry including 'blue water', off shore, ports, class societies, crew management, towage and dredging, maritime safety regulators and the cruise industry. The Navy also participated in respect of its workforce with AMSA equivalent certificates.

Even though the census covered those organisations that employed staff with AMSA certificates or equivalent international certificates, it is recognised that there are significant numbers of seafarers who hold certificates issued by a state/territory regulators. Given the differences in these certificates that exist between state regulators and between the various state regulators and AMSA, it was decided to exclude these. This issue will be addressed over the next few years as the national maritime regulator is implemented and further biennial censuses are conducted<sup>7</sup>.

It was not expected that the census would be able to provide a definitive overview of the current state of the maritime industry workforce and its planning requirements, due to incomplete responses. What it has provided is valuable and up-to-date information on various aspects of the maritime industry workforce, who is employed currently in the industry and upcoming workforce pressures. It provides a sound basis on which to proceed with this workforce strategy.

The census demonstrates some important high level results:

1. Responding organisations reported they directly employ 10,329 seafarers. Within this total, there are:
  - 3,941 seafarers with AMSA certifications (or equivalent international certificates but excluding state certificates) with the majority being in offshore oil and gas (1,368) and blue water (983); and
  - 6,388 seafarers without AMSA certifications directly employed by responding organisations, with the majority being Navy seafarers (4,158), towage (660) and offshore oil and gas (600).
2. The government sector represents 4,358 people (or 42 per cent of the total mariners in the census); the sector breakdown being Navy (95 per cent) and defence merchant support, government vessels or regulation (5 per cent). This figure represents the majority of the 6,388 seafarers without AMSA certificates.
3. Responding organisations reported employing 38,186 shore-based staff. Of these, 420 have current AMSA certificates (1.1 per cent) and 361 have non-current certificates (0.9 per cent).
4. There has been a shift in the balance of the Australian merchant marine industry over the last twenty years— from a primarily 'blue water' trading industry (19 per cent of the merchant sector today, as compared with some 40 per cent of the industry in 1990) to an industry with a large presence in the off shore oil and gas sector (32 per cent of the merchant sector today), with key supports in towage ( 18 per cent), dredging (6 per cent), pilotage (5 per cent) and ports (3 per cent), reflecting the move to Australian mariners providing services to a growing number of foreign trading ships and off shore activities.

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<sup>6</sup> The full census survey results can be accessed at <http://www.shipping.infrastructure.gov.au/mwdf/index.aspx>

<sup>7</sup> The Forum intends that censuses be conducted each two years using July data, and surveying in August-October.

5. Within the participating merchant marine sector, the 3,941 AMSA or equivalent certificated seafarers employed are comprised of: 1,502 integrated ratings (38 per cent); 1,098 engineering officers (28 per cent); and 1,341 deck officers (34 per cent). There are about 1,481 shore-based certified employees, of whom 420 hold current AMSA certificates and 1,061 have lapsed certificates.

The Forum tested the robustness of the census data and discussed the differences between this data and that available through other sources, notably AMSA and Seacare. As the census provides an actual snapshot of who is employed in the industry today, we believe the data is highly reliable, and numbers of commercial seafarers need only be adjusted by a factor of 7 per cent<sup>8</sup> to encompass those mariners not covered by the census due to the lower than 100 per cent response rate. On this basis the actual number of qualified mariners working in the commercial sector would be 6,600.

The census results show that the maritime workforce is aging and this signals a future shortage of skills unless it is counterbalanced by sufficient training and efforts to retain experienced officers. Anecdotally, maritime employers have spoken of the demographic ‘time bomb’ in the industry and, while the census suggests that the demographic profile is not as bad as expected, there is some cause for concern, particularly amongst the engineering cohort, where the proportion of the workforce aged over 55 is 28 per cent and over 60 is 14 per cent.

**Table 1: Demography of Seafarers Compared to the Average Australian Workforce Age**

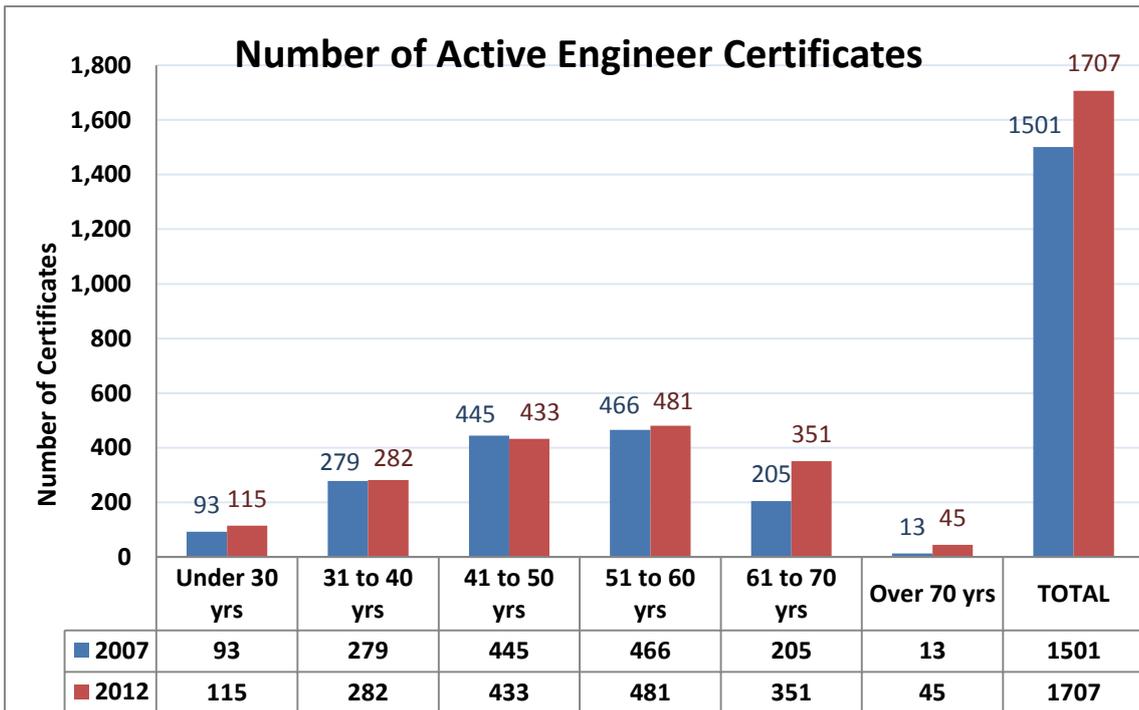
Employment Stream	% aged up to 45 years	% aged 46 to 55 years	% aged over 55 years
All Seafarers	53	27	20
Ratings	52	30	18
Engineer Officers	43	29	28
Master and Deck Officers	61	23	16
Overall Average Australian Workforce	62	21	17

*Source: Statistics from The Australian Maritime Industry Census, Orima Research (2012)*

In fact, AMSA data on active resident ship engineers suggests considerable ageing in the last five years and worse demographic pressures than evident in the census.

<sup>8</sup> A total of 55 per cent of invited respondents (92 from 165) provided the data reflected in the census. Using a figure of 45 per cent as an extrapolation factor would over-inflate the result as most of the non-responding invitees are not substantial employers of seafarers. Those that are would perhaps add another 500 or so to the total, or around 5 per cent of the total. On this basis, the Forum members believe an extrapolation factor of 7 per cent would be a reasonable increase across the industry-wide figures.

**Graph 1: Number of Active Engineer Certificates**



'Active Certificates' are valid certificates issued by AMSA to resident engineers who have applied and received an engineering certificate within the last 5 years. Data correct as at 30 September 2012 (AMSA, 2012).

While the global financial crisis slowed the number of seafarers retiring, with the recovery in the Australian economy and the global economy more generally, it is expected that the rate of attrition will return to that which existed previously. The implication is that we should be looking to engage more young people in the sector and bring them into training fresh from school or trade training, or through alternate career paths in the near coastal sectors of fishing, dive tourism and ferries. A younger cohort may address the misconception that the maritime industry involves "old world, dirty work" and help build a vibrant modern industry.

As technology continues to advance, it will be critical to ensure that there is a steady stream of well educated, tech-savvy employees entering the industry as well as a continuing stream of trades trained workers who can up-skill to meet future industry needs.

## DIVERSITY

The maritime workforce is male dominated (97 per cent). While organisations reported employing female integrated ratings (4 per cent) and deck officers (3 per cent), there were no female engineering officers<sup>9</sup> reported by participating firms. Organisations reported that 2 per cent of seafarers identify as Aboriginal or Torres Strait islander, with integrated ratings (3 per cent) and deck officers (2 per cent). Both of these population groups provide an untapped resource, and more could be done to diversify the workforce by targeting women and Indigenous Australians for entry to the industry. Major employers in other sectors of the transport and mining industries have successfully targeted these groups to address skills shortages.

<sup>9</sup> Some female engineers have been employed on occasion in the commercial industry, but none were recorded in the census. Navy does, however, have women engineers employed currently.

The census confirms that Australia already has a shortage of skilled seafarers, with 49 per cent of the firms reporting they are reliant on foreign workers to fill positions, but only 11 per cent of the AMSA-certified workforce coming from overseas. Of all AMSA-certified seafarers, 4.1 per cent were New Zealand residents (who have free and open access to the Australian labour market), 6.2 per cent were employed as deck and engineer officers on temporary work (skilled) subclass 457 visas, and 0.5 per cent on maritime crew visas and other visa types. These figures do not reflect those who have been employed in the sector in Australia through permanent skilled migration channels.

An international shortage of engineers and deck officers will contribute further to the difficulty employers have in recruiting staff to these positions, with the subsequent flow on effects to wage rates.

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## MARITIME CADETS AND TRAINEES

In addition to foreign recruitment, many maritime businesses also undertake training to address their skills shortages. 32 organisations (35 per cent of those surveyed) indicated that they are currently employing a total of 234 cadets and trainees, representing 6 per cent of their total staffing profile. The 234 in training comprise 105 integrated ratings, 60 engineers and 69 deck officers. It is of concern that, with engineers in short supply and with a greater proportion of engineers approaching retirement than any other discipline, the industry continues to train fewer engineers than cadets and trainees in other disciplines.

The organisations providing training were spread across the broader industry, though primarily crew management firms (69 cadets and trainees) and the blue water fleet (84 cadets and trainees). The firms in the off shore sector reported employing only 40 cadets and trainees, which is well below their actual needs. Critically the on shore sector, regulators and pilotage firms, all of whom employ highly skilled, senior officers reported employing none or very few cadets and trainees. Even amongst those that did report undertaking training in the 'blue water' and off shore sectors, cadets and trainees comprised only 9 per cent and 3 per cent respectively of their total workforces. These results are consistent with the anecdotal view that the training task is not spread evenly across the industry and that many firms benefit from the training investment made by others.

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## AVAILABILITY OF TRAINING BERTHS

In light of the long held view that access to available berths for sea-time training is a key impediment to seafaring training, respondents were asked what constraints prevented the provision of berths for this purpose. Identified constraints included:

- available space (nominated by organisations which together had around 1,100 berths);
- cost (nominated by organisations which together had around 360 berths);
- time (including not able to count sea time towards training) (nominated by organisations which together had around 100 berths);
- shortage of qualified staff to provide practical training (nominated by organisations which together had around 70 berths);
- short supply of trainees (nominated by an organisation which had around 20 berths); and
- safety/contract issues (nominated by organisations which together had around 40 berths).

Importantly, if these constraints were addressed, respondents estimated that they could leverage an additional 202 training berths.

Employers expect to meet some of their future workforce requirements by taking on cadets and trainees. They forecast taking on 234 cadet/trainees in 2012-13 rising to 289 by 2015-16, which is, however, much the same as the current level of intake and is well below the level of intake required to meet estimated demand. Based on census data, some of this demand could be met by increased immigration and by additional training and encouraging shore-based

staff with current certificates to return to sea based roles so long as they do not denude the industry of people in shore-based jobs who are required to hold seagoing qualifications.

## CONCLUSIONS

The census provides a good picture of how the industry is positioned today and what needs to be done. The results suggest some areas that could possibly be pursued are:

- an initial focus on, and increase to, new entrant training, whilst appreciating critical skills shortages are at the top end of deck officer and engineer officer positions and will take time to remedy;
- all sectors using seafarers can contribute to training and should be engaged in future workforce planning strategies;
- all organisations who use maritime skills should carry a training obligation which could be discharged through their internal training or in support of industry training initiatives;
- emphasis be given to increasing labour supply to the growth areas of off shore oil and gas and towage, whilst facilitating movement between all sectors of the industry to enable career progression and skills enhancements, with
  - a system for training additional new deck officers and engineer officers being set in train as a matter of urgency;
  - the offshore sector, towage, ports, pilotage firms and regulators being encouraged to sponsor more trainees and partner with other businesses, if necessary, to supervise and provide sea training;
  - maintaining current levels of new entrant integrated rating training, including new entrants with the attributes for career progression into the officer streams being pursued to address the apparent shortfall in numbers; and
  - local recruitment of qualified integrated ratings, as well as up-skilling of deckhands to the integrated rating qualification/licence.
- active recruitment of young and/or technically capable people into the industry and more employment of women and Indigenous Australians;
- recruitment of New Zealand nationals to work in the Australian maritime sector be continued;
- permanent immigration be used to meet some of the shortfall in officer numbers until such time as Australian/New Zealand trained officers increase in number, whilst 457 Visa recruitment be used sparingly to address peaks in the industry; and
- incentives be provided to enable more berths on ships to be accessed for training.

The Maritime Industry Workforce Census now provides government and industry with an agreed baseline for further analysis.

## POSITIONING FOR THE FUTURE

The relatively favourable economic environment, combined with the new regulatory and fiscal environment created by the commencement of a package of shipping reform legislation in July 2012 and wider maritime regulatory reform from mid 2013 presents a once in a generation opportunity for the Australian maritime industry to turn itself around. The recent growth in the off shore sector has demonstrated the potential for the creation of well paid, high skill jobs in a global industry and the Forum believes the nation should capitalise on this by growing the local workforce.

The aim of the Australian maritime workforce strategy is to grow Australian maritime capability in order to protect national security and promote trade and economic growth. The strategy identifies three important national workforce goals for the industry, namely, that the national maritime industry works together to:

- identify current demands and plan for future industry demands for qualified or certified mariners and the mix of skills appropriate to grow the maritime workforce within Australia;
- develop strategic and practical actions to deliver training to sustain the maritime industry, with a fairer distribution of the training cost and need; and
- establish a new paradigm: build on the relationship between the Navy and merchant marine and see the two sectors as partners in workforce development.

## CURRENT AND FUTURE INDUSTRY TRAINING DEMANDS

The discussions of the Forum have highlighted genuine concerns in the maritime sector about insufficient training being conducted to meet workforce needs. The changing nature of the local merchant sector from blue water to off shore and towage has further heightened these concerns, given the sea time training requirements for maritime qualifications. The notion of a ‘training target’ that will allow industry and government to set guidelines and policies for supporting the sector has been adopted by the Forum in order to set clear direction for the future.

### SETTING A TRAINING TARGET

Over the past two years, on average, 430 mariners (200 integrated ratings, 100 engineer officers, and 130 deck officers) are certified by AMSA each year across the various grades of qualification. Of those 430 certified new mariners, 325 are what we would call “new entrants” to the industry—200 integrated ratings, 63 are entry-level up to engineer watch keeper and 67 are entry-level up to deck officer watch keeper (see [Appendix A](#)). Using this baseline data, we can estimate how many new entrants are needed to meet current skills and employment needs in the sector. The notion of a ‘training target’ to support industry and government in setting guidelines and policies for supporting the sector can then be determined.

Based on the census data and consultations with industry experts, it is possible to broadly estimate the national training target as follows:  $TT = f(NA, DM, SSG, LT, EG, TW, FR)$ , where:

TT = Training Target per year for next 3 years (demand by occupational group)

NA = Natural Attrition during the next 3 years (turnover by group)

DM = Demographic Movement over the next 3 years (aging workforce by group)<sup>10</sup>

SSG = Strategic Skills Gap (current known gap by group)

LT = Lead Time (training time by group)

EG = Economic Growth over the next 3 years - estimated (shipping reform impact)

TW = Total Workforce (current by census, extrapolated by a factor of 7 per cent)

FR = Full Replacement (likely recruitment of already qualified people by group)

In non-formulaic terms we mean that the training target for maritime occupational groups is a function of the natural attrition from the total workforce as result of normal labour market turnover, combined with a longer term demographic shift (an ageing workforce that must be replaced), also combined with the known shortage of current strategic skills (engineers and deck officers) that must be supplemented. There is a lead time for training that must be taken into account, plus a factor for economic growth, mitigated by a factor of people recruited to fill gaps that are already trained (either overseas people, or locally trained and already available people). Over time the Forum also expects that technology and productivity improvements will also be brought to bear in developing future industry training targets.

<sup>10</sup> The target makes allowance for a total attrition rate of 15 per cent over a five year period as people reach retirement and/ or leave the industry. This rate of attrition is broadly consistent with recent experience.

Putting these variables together, a number emerges that we may term— the ‘training target’. [Appendix B](#) shows the full detail of the calculation of the training target by the Forum.

The total new entrant training target for the maritime industry is 545 for year one and 505 for the second and third year—made up of 225 integrated ratings, 120 for deck officers in year one with 80 per annum thereafter, and 130 for engineer officers, but with the age demographics for engineers driving the mark towards a more aspirational target for engineer officers of 200 a year.

The ability to deliver the 545 target is dependent upon industry’s capacity to deliver the engineer officer component and is subject to the availability of sufficient training berths in any one year. AIMPE prefers to see the higher engineer target because this expresses the actual number needed, not just those capable of being trained. The Forum is confident that a target of 475 could be met, but would seek industry support to go higher towards 545 so long as bottlenecks at the sea time requirement are avoided if the requisite number of berths cannot be found.

The target of 215 additional recruits each year needed by our reckoning over the next three years is modest by national standards, but significant within the maritime industry. The driver is the need for urgent action to address the demographic ‘time bomb’ among the ranks of engineering officers. The engineer officer target is more than thrice the number of engineers currently certified as qualified each year.

The total figure of 545 is much less than the figure industry said it needed in the census to meet expected demand for its services from 2013 onwards—only 220 more in the first year (and 180 more thereafter) than currently certified as trained each year. This is because labour demand has slowed since the census, the figures nominated by industry were high historically and the maritime industry has adjusted successfully in the last decade, with its highly mobile workforce moving to where the employment opportunities lie. The Forum believes this will continue, with the balance of labour being sourced from additional foreign workers and training of engineer officers from the trades.

The Forum expects that training targets will change over time, as conditions change and in line with movements in the local and international economy. It will, therefore, be necessary to review these targets in the light of experience and the results of the next maritime industry census in 2014, or according to other factors in the interim which may result in some fine tuning of the targets.

There are substantial lead times involved in training as cadets and trainees require sea time to qualify for AMSA certification. A summary of the training requirements are presented in the table at [Appendix C](#). The Forum now intends that the industry and training colleges work together to put in place the necessary number of new training places in colleges and for sea time on ships to facilitate the extra 220 falling to 180 trainees envisaged by the training target over each of the next three years. Extra action will be necessary for engineer officers, with a strategy involving trade trainees, permanent immigration and cadet sponsorship.

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## NATIONAL DEMAND AGGREGATION MODEL

To plan for the future of a national maritime industry and to consolidate the national maritime database established with the census data, most parts of the industry see a need for a national demand aggregation model for cadets and trainees. Given that the maritime industry is small by any standard, the aggregation model could assist future industry planning and training execution by providing a co-ordinated national approach to gathering supply and demand data to underpin the annual training target and designing the future biennial maritime workforce census activities and analysing the results.

Even though there is already at least one industry-based body with a demand aggregation model—Maritime Employees Training Limited (METL)—it does not have complete industry support, nor does it offer training, but instead acts as a group employment organisation. The new national demand aggregation model should, therefore, be developed under the auspices of the Forum.

## ACTIONS TO DELIVER TRAINING TO SUSTAIN THE MARITIME INDUSTRY

To achieve an increase in training numbers (in addition to the mandatory training requirement for ship operators accessing the shipping reform tax incentives) and to address other issues affecting workforce sustainability, a concerted and coordinated effort will be required from all industry players. The Forum has identified a number of concrete actions that need to be taken to grow the workforce and assist the maritime industry into the future.

### EDUCATION AND TRAINING AND QUALIFICATION LEVELS

#### TRAINING COLLEGES

A strong and sustainable training delivery sector is necessary to attract and develop competent graduates. In spite of the sector's impressive record over several decades, the training sector seems ill-equipped to meet future needs. The Forum has found the training providers to be fragmented and under-resourced; geographically spread in such a way as to make travel and time out for training expensive; and too limited in their vision and individual operations to provide the basis for the modern Australian shipping industry, let alone as a Middle East or Asia-Pacific regional centre of excellence in maritime training. A critical mass of training expertise, working to national workforce requirements, is sorely needed.

Strengthening seamless delivery and greater flexibility in education and training is a critical component of the workforce strategy. This strategy endorses the work of the three main colleges<sup>11</sup> in developing a joint memorandum of understanding to guide their future collaboration. This work should continue with the aim of creating a "virtual" national college network—one in which a student from anywhere may enrol, find common delivery systems everywhere, have statements of attainment at each college recognised by the other, and move around the nation and find the same high quality education in each of the approved maritime training colleges.

Collaboration between the colleges should address a number of the challenges they face:

- the sharing of learning materials, course guides and course references to reduce operating costs and allow the most skilled trainers to reach students across the three campuses;
- common course design and requirements to allow students to move between campuses opening up interstate employment opportunities as they undertake training;
- collaboration to also permit future specialisation in course offerings stretching scarce training facilities and the best trainers further; and
- joint collaboration between the colleges to increase the effectiveness with which they engage with AMSA and key employers and unions to bring people along and provide better pathways for career progression.

Current approaches to training and career pathways need to reflect modern educational practices while ensuring safety and educational standards are maintained and enhanced. The strategy is to encourage the colleges to focus their collaborative efforts through the Memorandum of Understanding (MOU) on opportunities such as:

- the integration of courses between colleges;
- to take advantage of available opportunities or further opportunities able to be negotiated through AMSA to recognise prior learning such as the use of simulators as an adjunct to training;
- facilitate greater access to training, especially for engineer officers, and possibly greater course specialisation between colleges;

<sup>11</sup> Australian Maritime College in Launceston, Tasmania; Hunter TAFE in Newcastle, NSW and Challenger TAFE in Fremantle, WA.

- assist career progression for all seafarers, especially those in officer training, but also within the ratings stream and from ratings into the officer stream;
- comprehensive credit transfer arrangements for cadets and trainees undertaking VET qualifications;
- sharing best practice modularisation of course delivery and trialling innovation in various mixes of on and off the job training;
- sharing of teachers to assist with assessment of trainees on-board learning tasks on disembarkation at a wider range of ports;
- entering into partnerships with other registered training organisations across Australia for delivery of some off-the-job training aimed at reducing cadet and trainee travel and accommodation costs; and
- pursuing aggressively opportunities to grow the training market by providing significantly more training services to international students.

It will be necessary to engage high level leadership to drive the integration and, ideally, someone should be tasked with, and empowered to, implement this goal over the next two or three years.

The formation of a virtual college network should not disadvantage any of the existing colleges, nor should it diminish the key role played by the Australian Maritime College. The Forum does not support suggestions for the formal integration of the three colleges at this time because the costs and disruption involved would not deliver any additional benefits over thorough collaboration via a national network.

However, to be effective the training colleges need adequate and secure funding. Funding arrangements need to recognise the national scope of the maritime industry and encompass both higher education and VET funding with secure funding over the medium term. The unique nature of the training requirements that span both degree and non-degree components also need to be formally recognised.

The funding complexities in this small system—serving 6600 mariners and 430 trainees annually—are extraordinary and, in the Forum’s view, unsustainable. Something must be done urgently to change them.

It is in the national interest under this strategy to pool all current Commonwealth and State funding for maritime training provided under the Commonwealth-State VET funding agreement and higher education funding arrangements that currently flow to maritime training into a single training fund spanning graduate, undergraduate and TAFE training. Such a funding arrangement would more closely match the national and international nature of the industry and provide the best catalyst for funding contemporary training in a small industry currently over-reliant on the declining Australian-flagged blue water sector for funding. If such a system were implemented quickly, it would provide the basis for further expansion of Australia’s training capacity into Asia, the Pacific and the Middle East.

The strategy recognises the need for an increase in funding to improve the quality of the courses offered and to improve the integration of off- and on-the-job training. Capital investments and program upgrades are urgently needed to improve the quality of engineer training in particular, and to meet contemporary requirements and future changes in operating systems and technology. Students from all States and Territories need access to funded VET maritime training places, no matter where they are delivered.

The Forum is very concerned that VET funding for the AMC and the other colleges is not guaranteed. While the Forum continues to support a strategy based on existing colleges, there is a risk that Commonwealth VET funding could be redirected or terminated under new workplace education and training funding arrangements at the national level. The maritime sector could become a casualty of these arrangements at the very moment when a maritime workforce development strategy is being contemplated and is being put forward, which is reliant on their continued existence at least at the current level.

The Forum has considered the recent Hamilton *Review of the Integration of the Australian Maritime College with the University of Tasmania*. [Appendix D](#) contains a list of its recommendations and funding options. The Forum is very

concerned that the review failed to underscore the gravity of the VET funding situation or the urgency with which it must be addressed. AMC facilities are in threat of closure and the curtailment of course offerings is under active consideration in the absence of ongoing funding.

As a matter of urgency, the Forum believes that an ongoing mechanism must be found to continue to provide VET funding to the AMC at increased levels sufficient to fully support the increased training task identified by the Forum—likely to be of the order of \$3 million per annum. So, even though the Forum supports the explicit allocation of the cost of VET provision and maintenance of infrastructure through the AMC National Institute Fund (Hamilton’s Option 4), it does not support that funding being wound back progressively. A longer term solution must be found urgently which maintains and increases funding levels. In the Forum’s view Option 3 offers the best long-term solution, coupled with negotiations with the States and Territories through COAG to agree that students from their jurisdictions should have access to VET maritime places no matter where they are delivered (Option 1). The Government of Tasmania should also be pressed to contribute VET funds equivalent to its training numbers at the College.

The Hamilton Review made a number of other recommendations about governance, online and accelerated delivery of courses and further development of the MOU, which the Forum generally supports. However, the Forum believes that a strong signal needs to be sent to the University of Tasmania that maritime VET training is important and needs to be taken seriously. This could be brought about through much tighter governance arrangements, giving a strong industry-based board delegated authority under Ordinance 15 to deal with AMC matters and direct the AMC, rather than an ineffective advisory structure as proposed and as exists now.

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## TRAINING COSTS, BENEFITS AND OBLIGATIONS: WHO SHOULD BEAR THE COST OF TRAINING?

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### WHO BEARS THE COST NOW?

Finding a place in a maritime college is only the first step to securing a future in the maritime industry. Securing a training berth on a ship is the biggest barrier to entry and certification for aspiring mariners. Similar to trades training for plumbing, carpentry or hairdressing, maritime training requires an employer to sponsor the cadet or trainee at some point in their training program because it involves one or several periods of sea time placement on ships as well as one or several blocks of course time in classrooms.

Because traditional training arrangements involve a mariner being employed by a shipping company and trained largely at the employer’s expense, maritime training is costly for shipping companies to manage. While the exact figures are dependent on a range of different variables, the Forum’s best understanding of the full cost of maritime training is of the order of:

- \$190-210,000 for a deck watch keeper cadetship, and another \$200,000 to reach chief mate and ships master;
- \$180-225,000 for an engineer watch keeper cadetship, \$200,000 to reach 1<sup>st</sup> engineer, and a further \$150,000 to become a chief engineer; and
- \$70-110,000 for an integrated rating to certificate of proficiency.

Most trainees in other industry sectors undertake their training close to home at little or no cost to the employer and obtain loans for the cost of this training through the Higher Education Contribution Scheme and equivalent vocational schemes. The unique nature of maritime training means that it requires both extensive periods away from home at sea and in training colleges, which generally involve significant travel and accommodation costs for employers because there are only three training institutes approved by AMSA for internationally recognised seagoing qualifications and which have the scope as registered training organisations to deliver maritime qualifications. To illustrate, the average accommodation and meals cost for the ratings qualification at the Australian Maritime College is \$10,000.

Government subsidies for apprenticeships (cadetships) and traineeships approved by an apprenticeship centre in the maritime sector could include an allowance for travel and accommodation costs of, say, \$500 a week. Provision of a government subsidy would defray a sizeable proportion of the training costs for current employers who sponsor trainee/cadet training and may encourage more employers to enter the field and shoulder the training task. It would also support the employment of additional trainees.

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## GOVERNMENT SHOULD PROVIDE MORE SUPPORT

The Forum believes the Australian Government's contribution to maritime training should be far more substantial and immediate to address the current shortfalls, and should extend well beyond its support for the training colleges. The reasons for this are self-evident:

- it is in the national interest to maintain a high quality national maritime workforce able to manage our large shoreline, trade demands and security requirements;
- there is an urgent need to grow and sustain an Australian maritime industry;
- there is a significantly larger demand for maritime skills in the wider government sector (Navy, Customs and border protection, and regulation) and in the commercial sector (ports, pilotage, offshore, towage) than can be met by the current providers;
- the maritime industry is too small and fragmented to meet the training need by itself;
- the maritime sector has a unique set of skills requirements that make training costly and complex to deliver;
- there are cumbersome processes that must be endured to gain qualifications and accreditation to work in the sector;
- there are limited platforms to get the necessary training standards delivered. The registered training organisations approved to deliver seafarer VET qualifications (three in Australia) results in significant travel and accommodation costs that are usually met by either the employer or the cadets and trainees who do not live in the vicinity of Launceston, Fremantle or Newcastle; and
- there are other pre-employment costs borne by either the employer or the cadets and trainees that are not a feature of other industries<sup>12</sup>.

Moreover, a Government subsidy arrangement would be much simpler to operate than an accommodation payment and would achieve better results, without creating anomalies within the Government's wider apprentice funding arrangements.

An example of a very effective government subsidy program in operation is United Kingdom's SMarT scheme, where the Government offsets 50 per cent of employers' training costs through direct subsidy to them. An overview of the scheme is contained in [Appendix E](#).

The Forum recommends that the Government matches or co-contributes \$10,000 to employers to assist defray the costs of each new entry-level integrated rating trainee and \$20,000 to employers for each new entry-level engineer officer and deck officer trainee. These funds could be provided by way of a direct subsidy to employers or via the auspices of the National Workforce Development Fund. The new Government national maritime training subsidy regime should be in place for ten years, then subject to review.

It will also be important for the Government to contribute towards the bedding down on a national approach to the maritime industry workforce. The Forum proposes that the Government provide seed funding of some \$1.5 million a year for three years to cover the development costs of the national aggregation model (page 10); future biennial

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<sup>12</sup> These are the requirements by AMSA for a medical to ensure the cadets and trainees meet the medical fitness requirements of Marine Order 9, the requirement for a Maritime Security Identification Card to enter ports, and the pre-screening costs necessary to assess suitability for a career at sea.

workforce census exercises (page 4); the establishment and initial operation of a small national industry training body (page 17); support the Forum's ongoing operations; and the engagement of a senior person to facilitate the integration of maritime training colleges under the MOU (page 11).

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## THE TRAINEE MARINER CONTRIBUTION

The majority of enterprise bargaining agreements covering seafarers contain a training wage provision, based on the National Training Wage Award standard. In most other industries, trainees go to university (and largely fund their own education through HECS and working, although many receive some income support from the Government) or TAFE (with a lower training wage, supplemented by an apprentice subsidy from the Government). Similar systems have not been widely used in the maritime industry, and it may be one of the reasons for the higher average age of mariners.

There are currently some enterprise negotiations underway between the Australian Institute of Marine and Power Engineers and various employers to create a more affordable cadet sponsorship program for engineer officers. Under the program:

- employers provide a scholarship to a young school leaver covering a stipend (\$72,000 over three years), course fees, travel and accommodation, and seafaring costs;
- the cadet mariner is a student and not an employee; and
- employers are not obliged to take them on as employees at the end of their training program.

The program is innovative in that it breaks away from the historical training arrangements operating in the maritime industry and aligns engineer officer training more closely with the wider economy. Its lower unit cost means that employers are potentially able to take on more trainees and more rapidly replace the aging engineer officer workforce. However, it also involves an increased duration of training and directs where training might be undertaken. The Forum watches with interest the development of any supplementary pathways for engineer officer and other training.

The Forum acknowledges that any new training arrangements that occur in the future have the potential to change the traditional ways of the maritime sector. In this case, the usual workers compensation arrangements will not apply and, just as we face similar issues in terms of the Naval-commercial sector interface (page 21), new ways will need to be found to protect workers health and safety to no lesser extent than today, as we go forward.

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## MORE EMPLOYERS NEED TO BE INCENTIVISED TO SUPPORT MORE TRAINING

The longstanding reliance on a limited number of organisations (generally in the blue water and off shore sectors) who are prepared to make the investment in training and fund the training places needs to be addressed. Critically, the many diverse organisations that make up the maritime industry need to recognise that they are part of a broader industry and should contribute to training costs. The Forum has tried to find a workable and equitable model to make this possible.

To this end, the Forum considered the possibility of bringing other parts of the industry into the system as employers of cadets or trainees or sponsors of trainees where those organisations do not own or operate ships where their trainees could undertake sea time. Ports, pilotage or towage companies and regulators could sponsor trainees through their training years and help find them training berths on blue water or qualifying off shore ships, which is currently occurring on an ad hoc basis. Alternatively, a group training organisation could provide a mechanism through which such organisations could sponsor cadets and trainees. Any remaining non-contributing industry players could be subject to a training contribution in lieu of providing seafarer training.

In its deliberations, the Forum reviewed the experience of the training guarantee of the 1990s. That arrangement increased the level of national training significantly and led to a genuine turnaround in attitudes to training and up-

skilling nationwide. Its mandatory nature was the key to its success, and it is clear to the Forum that some kind of obligatory regime is necessary to gain wider maritime engagement in, and ownership of, marine training than occurs now. The training guarantee was less effective where quality training was not in place; however this is not a problem in the maritime sector which requires clear standards of entry, training and certification.

The Forum believes that a training guarantee or obligation for new entrants to the shipping industry should be introduced to incentivise employers to provide more training. The aim of the training obligation would be to ensure that all employers in the maritime sector<sup>13</sup> share the obligation to provide training to new mariners and to support an increase in the level of maritime training to facilitate achievement of the Forum's proposed training targets, which will provide for a sustainable future workforce.

The "training obligation" would cover new entrants to maritime training—cadetships, traineeships and apprenticeships. This means an approved course, such as a VET maritime training qualification; maritime training to Certificate 4 (advanced diploma); an Australian Maritime College maritime cadet qualification; or a national recognised training qualification related to Marine Order 3 or Marine Order 505. The training obligation would not cover officer training beyond watch keeper officer levels, where responsibility would continue to lie directly with employers.

Nonetheless, it will be important to ensure that the training obligation does not discourage employers from providing additional training opportunities to up-skill their existing workforce or from training mariners appropriate to their operations. The strategic importance of a workforce with high ranking officer qualifications will be imperative to the maritime cluster.

Entities covered by the training obligation would be the end users of maritime skills—those who require people with maritime qualifications to perform their functions. Typically, they would be firms with jobs in the operation or navigation of ships and off shore resource installations (including FPSOs with a defined marine component and specialist maritime vessels operating for short periods to construct or maintain off shore platforms), relevant shore-based services, and state-based coastal operations with employees undertaking course and sea time to obtain STCW compliant certification. In short, any entity involved in any way, shape or form with floating crafts and offshore installations would be included, except for the Navy. This system would bring in new players to support maritime training (such as towage companies, regulators, ports and major offshore construction companies) and would provide an incentive for them and more players in the offshore sector to take ownership of the system that currently supports their activities. It would also share the training burden beyond mainly the current blue water providers.

The Forum suggests that the training obligation should be equivalent to 2 per cent of the payroll (wage/salary and related on-costs) of those employees that are required to hold a maritime qualification or skill set that the firm employs. The maritime payroll would be determined on the basis of jobs that require maritime skills and/or a maritime training requirement to perform their function in any relevant firm or body, except the Navy. Where an employer does not contribute 2 per cent of its salary bill to entry level training, the equivalent funds would be levied through AMSA into an industry fund managed by a national industry training organisation to support entry level maritime training. The training obligation would remain in place for at least ten years, to ensure the necessary cultural change in the wider industry to support workforce training and to mirror the proposed ten year government national maritime training subsidy regime outlined on page 14.

To this end, the Forum proposes that the Australian Government should urgently convene a meeting between the relevant portfolio Ministers, senior departmental and AMSA officers, Forum employer representatives and TLISC to determine the final details of the scheme.

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<sup>13</sup> Another advantage for those tendering for maritime vessel supply or labour supply contracts in the offshore oil and gas sector would be to use the training obligation to ensure the principal or head contractor, or resource owner, provided sufficient scope in the contract price to support the minimum training obligation.

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## THE NATIONAL MARITIME INDUSTRY TRAINING ORGANISATION

The Forum recognises that the training obligation, the government co-contribution training subsidy and the national demand aggregation model need to be managed carefully in the national interest. There might be resistance to the changes from several quarters, particularly from those newly expected to contribute to training. No system will be perfect, but administrative burdens and subjectivity about what constitutes training or which employers are subject to the training all need to be minimised.

Having considered a range of possible options, the Forum favours the establishment of a very small new national maritime industry training organisation to fulfil these obligations. The organisation would be a not-for-profit public company limited by guarantee, with a small independent board of expert directors and chaired by an independent executive chairperson.

The role of the new body would be to advise the Maritime Workforce Development Forum and manage the following functions:

- oversee the demand aggregation model, including the bi-annual census and estimating future labour demand requirements;
- development work towards the establishment of annual and rolling maritime training targets;
- using the training target as a base, quantify the numbers to be trained and set the training task with reviews to be held at the conclusion of each census to test the results;
- co-ordinate with government agencies such as the Australian Workplace and Productivity Agency and the Department of Industry, Innovation, Science, Research and Tertiary Education to ensure that sufficient funding is available to deliver the annual maritime training targets;
- work with companies not currently providing training to assist them commit to training, fulfil their training obligations, and ensure they obtain appropriate outcomes from their financial contributions to training;
- coordinate sponsors of cadets and trainees where the sponsor does not have, or cannot secure, a berth for the sea time training of cadets and trainees;
- secure resources to broaden the sources of industry contributions towards seafarer training;
- hold funds collected and pooled from industry;
- set parameters for the receipt and disbursement of those funds for allocation to employers engaging new cadets and trainees, including the development of rules to enable group training organisations<sup>14</sup> to operate and enter into commercial relationships with employers, apprenticeship centres and registered training organisations; and
- work with the training institutions to ensure an appropriate allocation of students and funding to the training institutions.

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## MINIMUM TRAINING OBLIGATION AND TAX CONCESSIONS

The work of this group would ensure that future arrangements build on the suite of measures and taxation incentives introduced by the Government to encourage investment in the Australian shipping industry and the development of sustainable employment and skills opportunities for Australian seafarers.<sup>15</sup> In order to access the income tax exemption, the legislation requires a company to meet certain management requirements (directed at increasing the maritime 'cluster' activities conducted in Australia relating to strategic, commercial, technical and crew management) and have a training plan to support efforts to increase employment and training opportunities for Australian seafarers.

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<sup>14</sup> A group training organisation is responsible for training administration, while a registered training organisation is responsible for the delivery of training.

<sup>15</sup> Shipping Reform (Tax Incentives) Act 2012 Section 3 – Object.

For each eligible vessel operated by the company, one training place must be filled by a trainee in each of the following three categories:

- a. engineer officer training;
- b. deck officer training; and
- c. integrated rating and steward training.

Early enquiries from two potentially eligible operators with four qualifying vessels suggest that each will offer 24 training places—a significant number from just two companies.

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## THE ROLE OF THE TRANSPORT AND LOGISTICS INDUSTRY SKILLS COUNCIL

Education and training of mariners continues to rely on access to the established national maritime training system. Within this system, the Transport and Logistics Industry Skills Council is responsible for driving the skills and workforce development agenda across the entire transport and logistics industry and for the development of VET qualifications for the maritime industry. It has recently developed a new Maritime Training Package,<sup>16</sup> which enables full alignment of maritime industry skills needs with AMSA regulatory and certification requirements and delivers nationally consistent training standards.

A range of senior maritime industry representatives are involved in the governance and operational structures of the Council. However, more could be done to strengthen the relationship. In particular, the Forum and the Council could engage in future discussions on skills and training in the maritime industry and promote the ongoing development of the occupational roles, role integration, and the creation of career pathways in order to improve the use of shipping labour and productivity. There is also an opportunity for the Council to map formally the maritime training task to aid training providers in their planning and funding.

A key policy initiative of the Australian Government to support new entrant training, the up-skilling of the workforce and increased productivity is investment in the National Workforce Development Fund, now being managed by the newly formed Australian Workforce and Productivity Agency. The Transport and Logistics Industry Skills Council has responsibility for brokering projects and facilitating funding opportunities for the maritime industry nationally.

Monies from the National Workforce Development Fund are available for vocational education and training programs only. In the maritime industry, this equates to VET Certificate 1 through to Certificate 4 and includes advanced diplomas, but does not cover any “university” programs, thus excluding support for the “university-end” of diplomas offered by the Australian Maritime College and deck officer or engineer officer training beyond watch keeper levels. Moreover, funding relates only to the delivery of AQF<sup>17</sup> qualifications and not to any wages paid to a trainee during their training, which is the area identified by employers as the biggest cost involved in seafarer training.

Two types of support are available through the National Workforce Development Fund:

- support at graduated levels is available to employers, industry associations and registered training organisations for trainees on a co-contribution model<sup>18</sup>; and
- innovative projects to facilitate workforce planning and research to deal with skills issues.

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<sup>16</sup> The Maritime Training Package includes the appropriate qualifications and licenses from which registered training organisations can develop training packages approved by AMSA. AMSA has the regulatory role under international obligations to monitor education and training across the maritime industry.

<sup>17</sup> Australian Qualifications Framework

<sup>18</sup> Under the National Workforce Development Fund, where an employer has:

- a) over 200 employees, 66% of the cost is contributed by the employer;
- b) 100-200 employees, 50% of the cost is contributed by the employer; and
- c) fewer than 100 employees, 33% of the cost is contributed by the employer.

Support is available for a maximum of three years, after which employers need to reapply for further assistance. This is somewhat problematic because training through to Certificate 4 level in the maritime industry may take four or five years.

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## FIT FOR PURPOSE COST STRUCTURES AND QUALIFICATIONS

Workforce development is a purposeful activity designed to improve employee skills and conditions, maintain operational standards, enhance individual and industry productivity, and support enterprise viability. A national maritime workforce development strategy must be cognisant of the operational cost drivers that impact on the economics of the industry and on enterprise profitability and competitiveness, and which influence investment decisions by employers of maritime labour.

There are some imbalances and some gaps in the relationship between skill levels required to perform seafaring roles on the wide diversity of vessel types in use in the Australian maritime industry, regulated training outcomes and associated pay scales that need to be addressed over time. If those imbalances and gaps are resulting in trends towards the use of foreign temporary visa workers at the same time as there is a decline in investment in training for the future maritime workforce, that makes the imperative to act to address those imbalances and gaps all the more urgent.

There is a need to consider the notion of fit-for-purpose qualifications, with the skill sets and competencies of the workforce being matched with the roles they perform. Not everyone needs to be qualified at the highest level for work in all sectors. In the towage and pilotage sectors, for example, there may not always be a need for the systematic requirement for high level officer and engineering qualifications in all cases. These higher order skills are more relevant to the blue water and offshore sectors, with individual environmental and safety judgements being made as to where they are appropriate for towage, pilotage and ports.

Safety at sea and environmental protection are paramount. The important reality is that these matters are choices that individual companies will and should make, dependent on their operating and environmental circumstances and settled on a case-by-case basis.

It is possible that a lower level qualification, along with some experience in the relevant port precincts such as tug masters, pilot boat masters and the like, with some additional specialist training could deliver a new qualification of pilot, which would see the ranks of available pilots grow without the longstanding drag on the availability of foreign going master class one qualified mariners. Similarly, the nature of many towage operations close to port means that there is a variety of certification levels which are capable of performing work on these vessels safely and efficiently as well as companies exploring different vessel operations, providing options which may render the requirements for class two engineer officers on each vessel unnecessary, if that meets the operational needs of the port.

While there will always be people who seek to move into these highly sought after jobs, the requirements under industrial instruments and some regulations for these positions to be covered by people with higher level qualifications than would otherwise be required mitigates against the entry into the industry of younger and more diverse groups of people who seek a long-term career in the industry, may already be partially qualified and therefore able to gain higher qualifications more quickly, at lower cost than would otherwise be the case.

On the other hand, adoption of fit for purpose arrangements which would benefit ports and towage companies could potentially reduce labour mobility within what is currently a very highly mobile labour force and affect the seamless transfer of mariners from one part of the sector to another, or from one vessel or company to another. This might be seen to undermine nationally-accredited and portable safety certificate arrangements. But there is, of course, no reason why higher qualified seafarers would not be entitled to apply for and obtain positions with duties they are

eligible to perform and there is no doubt that seafarers with the highest available qualification will be highly sought after across all maritime industry sectors.

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## MANAGING MARITIME LABOUR MARKET DYNAMICS

In the maritime business in Australia the long term industry growth curve transects the peaks and troughs in demand for labour over time. Our resources sector produces “fits and starts”. There is a place to recognise the need for skills to be supplemented with foreign labour in times of peak activity and/or for specialist short term maritime service requirements; not as standard practice, but as a way of keeping the shipping industry flexible and competitive.

We need to acknowledge the inter-relationship between spikes in activity that are usually correlated with increased foreign contractor engagement; increased labour demand outcomes; project industrial agreements; labour competition increasing domestic mobility; the pull on and from domestic owner/operators who carry the main burden of training; inflation; profit margin stress; and loss of competitiveness.

The upshot is that resources booms generate downstream effects on the rest of the maritime industry—affecting both the price and availability of labour and overall industry competitiveness. The need for many specialised vessels for exploration, construction and operation of the off shore sector, for example, means that employers are further driven to use foreign crews for reasons of lack of availability of local technical skills and temporary shortages as economic activity “peaks and troughs” around the nation.

At present there is no national industry ‘plan’ to balance these needs. Each company and each sector undertakes its own optimising strategy for recruitment and retention of mariners. ‘Poaching’ and ad hoc settlement of training outcomes through an enterprise-by-enterprise bargaining process have become a normal way of doing business. As a result the outcome for the nation is less than optimal.

It is necessary to find a pragmatic way of dealing with the immediate pressure placed on the maritime labour force through spikes in oil and gas industry workforce demands which does not adversely impact upon the rest of the industry. Over the long term, the outcome will be less than optimal for all stakeholders, forcing us to focus on maintenance of the existing maritime industry; use of foreign labour through section 457 visas at peak times; and application of the training obligation to charge the resource sector during the expansion and construction phase in order to offset the sunk training costs of other parts of the national maritime sector.

As an important first step, there is a need to find a more objective way to manage short-term marine service requirements in the offshore sector without undermining wider attempts to deliver a national maritime industry skills base that delivers long term sustainability. It is critical that the employment conditions, safety and skills of all those who work in this sector are paramount and that the framework supports the general directions in this strategy. It is proposed that the Government should lead consultations on this work with all the relevant key operational stakeholders to identify any gaps with a view to ensuring the smooth delivery of Australian development/construction projects which, on occasion, require specialist international maritime services which are not available in Australia. The underlying goal will be to establish a more sustainable system so that the need for section 457 visas in the maritime industry is eventually removed.

### BUILD ON THE PARTNERSHIP BETWEEN THE NAVY AND THE COMMERCIAL MARITIME SECTOR

From the beginning of western settlement in Australia, the strong partnership between the Royal Australian Navy and commercial maritime sector has been clear, with national security and defence priorities continuing to drive this partnership. While these linkages have been less evident in recent years, Australia would do well to deepen the relationship and capitalise on the synergies between the two at a time when both are experiencing skills shortages and high demand for their services.

To this end, the Forum believes that there is considerable opportunity for the commercial maritime sector and the Navy to work collaboratively to address training needs. Securing sea time on ships is an important aspect of training mariners and there are potential gains to be made from exploring two new opportunities.

First, the Navy might offer civilian trainees, on an opportunity basis, training berths on modern commercial vessels (for example, *Seahorse Spirit*) already chartered by the Navy under their Fleet Marine Services Contract. This could help trainee seafarers gain some of their sea time or allow them to apply their engineering or navigational skills under the tutelage of civilian instructors. It would provide the equivalent of a training vessel for industry, without the need for significant capital expenditure by the Government.

Second, the Navy is actively considering offering cooperative arrangements with the commercial sector to provide seafarers' sea time training on commissioned Navy ships of a more commercial design (for example *HMAS Choules*), before progressing to a career in the blue water or offshore sectors. Again, training would be conducted under the tutelage of civilian instructors.

Both of these opportunities would require the Navy to undertake a lot of work to facilitate access to appropriate vessels to enable training opportunities for the commercial sector, and there is scope for some efforts to reduce its exposure. Accordingly, trainee seafarers or their employers or sponsors would need to arrange funding of their college training, possibly by commercial sponsorship or through the activities of the national maritime training organisation.

It has also been suggested that trainee seafarers might then enlist as Navy reservists to complete their sea training under maritime college tutelage and to obtain their civilian VET qualification and AMSA license (certification). This would maximise flexibility within the training programme and expose trainees to a range of seafaring experiences across different types of Navy or contracted ships. After completion of the Navy-based component of their training, the mariners would transition to a commercial seafaring role, but continue as a member of the Navy reserve.

These arrangements would increase the national training effort, provide the Navy with a powerful recruitment pitch, and allow it to retain access to skilled and experienced sailors on an as-required basis to support its military obligations and Australia's maritime security needs.

Due diligence towards the safety and welfare of seafarers also needs further consideration. When operating on a commercial vessel, the ship's master legally has responsibility for health and safety, however the partnership nature under which training would be undertaken may cause some liability for an injury to be apportioned to the Government. It is unlikely that trainees will be deemed to be workers for whom the Navy has responsibility under the Work Health and Safety Act, but there may be contractual liabilities to the Navy as a result of the nature of the partnership under the Fleet Services Support Contract. These are complex issues and need further exploration.

Nonetheless, the ideas recognise the existing workforce interactions between the commercial sector and the Navy, and the potential for mutual advantage in working together. They would need to be managed carefully, as the cultures and

practices operating in Navy and commercial sector are different. So long as the training provided is to a merchant naval STCW standard, using the platform the Navy has to offer makes considerable sense.

The Forum supports these initiatives as a way of increasing training and retention for both the Navy and the commercial industry. Navy has put together a team to work through how to put these new arrangements in place, and will work closely with the merchant sector to see them implemented.

Significant other work is underway to progress the partnership. AMSA has developed and implemented a system of recognition for Navy sea service for Navy officers who are currently serving or have left the service and wish to gain a STCW certificate of competency (deck), for example. The sea service of ratings who have served in the specialist seaman department of the Navy (for example boatswain mates) is already fully recognised in Marine Orders Part 3 – Seagoing Qualifications as qualifying sea service towards obtaining a certificate of competency as a deck watch keeper or mate (<500GT) with a capacity limitation as a watch keeper only.

The Navy, other registered training organisations and AMSA have identified the gaps between the respective counterpart courses and have developed a number of short bridging courses to assist the transition of Navy personnel to the commercial maritime sector. The specific requirements for each particular certificate of competency have been mapped, with all qualifying avenues for sea service identified.

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## AMSA'S ROLE IN THE STRATEGY

The Australian Maritime Safety Authority (AMSA) is responsible for regulating the safety of Australia's maritime industry and giving domestic legislative effect to internationally adopted standards through the International Maritime Organisation, particularly the *Navigation Act 2012* and *Marine Safety (Domestic Commercial Vessel) National Law Act 2012* (due to commence in 2013) and related Marine Orders. AMSA has been consulting with the maritime industry on some changes to current regulations as part a review of Marine Order 3, and more recently in relation to Marine Orders 505 and 506 to ensure that Australia is in conformity with the 2010 amendments to the STCW Convention, and to give effect to the single national maritime regulator reforms agreed by COAG.

It is important that the maritime industry partners work closely with AMSA and the Transport and Logistics Industry Skills Council to address any further impediments to the efficient and flexible delivery of training and to enhance career progression opportunities. To this end, an annual meeting has been agreed between AMSA, the three training colleges and various industry players in order to deal with any issues, and the Forum has proposed to the Minister that its membership be widened to include these groups. An important matter that needs to be considered by AMSA in conjunction with industry, is the scope to recognise additional sea time for the purposes of approved sea time on vessels where AMSA sea service recognition is less than 100% for that vessel class, aimed at expediting the accumulation of sea time by trainees and cadets, particularly in the offshore oil and gas sector.

AMSA has made advances in recent years through the approval of online delivery of course material through the Open Training and Education Network (OTEN) based in Strathfield TAFE in NSW. This particular multi-modal delivery option caters for students who cannot commit to studying full time for long periods of time. AMSA also have a rigorous recognition of prior learning system to support transfer of credits earned between the colleges.

## WORKPLACE HEALTH AND SAFETY: SEACARE'S ROLE

The very nature of maritime work requires that mariners spend not just their working day on board a ship, but also their spare time and nights in their workplace. The upshot is that the rate of adverse health and safety incidents in the shipping industry is higher than other industries.

The *Seafarer's Rehabilitation and Compensation Act 1992* (Seafarers Act) covered 7,916 employees in 2011-12, working for 32 employers. There is not a direct correlation to the number of employees represented in the results of the census, however. These employees under the Seafarers Act were engaged on 298 ships, 65 ships in the 'blue water' sector with 31 per cent of the employees, 218 ships in the offshore sector with 57 per cent of the employees and 45 ships in other sectors (passengers and tourism, dredging and aquaculture) representing 12 per cent of employees.

The shaded area in **Table 2** shows the rate per 1,000 full time equivalent employees of accepted workers compensation claims for either a fatality, permanent or temporary disability under the Seacare definition<sup>19</sup> being 47.8 for 2009-10. For the same period, the rate of comparable serious injury claims per 1,000 employees across all industry sectors was only 12.6; markedly under the maritime sector rate<sup>20</sup>.

**Table 2: Injury Incidence Rate (per 1000 FTE against 10 year injury reduction targets)**

Injury Incidence Rate	Base Period	2007-08	2008-09	2009-10	2010-11	2011-12	10 year target (40 per cent reduction)
Safe Work Australia definition	36.3	27.0	33.3	35.9	37.2	N/A	2011-12 target 21.8
Seacare Definition	39.9	35.1	43.8	47.8	47.1	37.7	2011-12 target 23.9

The Forum believes that no amount of death or injury on the job is acceptable, and strongly endorses urgent work to reduce the current rate of injury considerably. The most important next steps are likely to be engaging selectively with shipping company leadership and team leaders to focus directly on work health and safety and make the shipping workplace a safer, safety conscious place to be. This may be achieved through renewed emphasis on the implementation of safety management systems, including appropriate training in work health and safety and skills to enable the performance of work in a safe manner. In this context the Maritime Workforce Development Strategy encourages industry stakeholders to include a focus on work health and safety and safe work in their training plans that flow from this strategy.

## BUILDING A MARITIME CLUSTER

A number of countries have implemented policies to support development of a "maritime cluster". In general terms, a maritime cluster includes sectors that are directly linked to the shipping industry and maritime transport including shipping and port services, maritime surveying, ship management and brokerage, and indirect sectors such as banking, financial and legal services, research and development and education.

<sup>19</sup> Seacare Annual Report 2011-12 p49

<sup>20</sup> Safe Work Australia, Compendium of Workers' Compensation Statistics Australia 2009-10, published March 2012.

London is the most notable maritime cluster and, closer to our shores, Singapore has successfully implemented a range of measures to develop itself as an international maritime cluster. Activities related to the maritime cluster now contribute 7 per cent to Singapore's GDP.

Australia's size and location makes it difficult to imagine that we could compete for a large share of the market, but it is clear that if the maritime sector were prepared to chance its hand in the legal areas, regulation, training and ports administration, that there may be opportunities for the development of such a cluster. Australian expertise in quality and safety systems and our capacity to access and grow specialist maritime support services and technical and trades skills suggest there is scope to rebuild a maritime cluster based in Australia covering the southern hemisphere, Africa and the Middle East. Our vision is that Australia could support qualified maritime labour and services for world shipping.

To start Australia on this path, the *Shipping Reform (Tax Incentives) Act 2012* contains a specific measure to stimulate commercial activities within the sectors forming an Australian 'maritime cluster'. A company wishing to access the income tax exemption must meet the management requirements directed at increasing the maritime 'cluster' activities conducted in Australia relating to:

- a. strategic management (the company needs to manage and make decisions on general policies, strategic direction, contract agreements and financial matters that guide and control the business activities in Australia);
- b. commercial management (where the company manages the commercial activities of their vessels from Australia, such as voyage routes, cargo or passenger bookings, charter arrangements and insurances);
- c. technical management (supervising the repair and maintenance, provisioning, refuelling and safety management); and
- d. crew management (recruitment, crew employment and payments).

The Forum supports further work on the maritime cluster as part of the shipping reform agenda, and suggests that the Forum lead the work, with support provided by the Government.

## IMPLEMENTATION OF THE STRATEGY

Once the Government has considered and endorsed the overall workforce development strategy, there are a number of key actions required to implement the work. The Forum considers that it should take national responsibility for leading the implementation task.

As part of the transition process, the Forum recommends it continue to have the same independent chairperson, but its membership be widened to include AMSA, more industry representatives and a representative from the training colleges. The Forum would continue to work to the Minister for Infrastructure and Transport and with industry nationally.

The Secretariat to the Forum would remain in the Department of Infrastructure and Transport.

## RECOMMENDATIONS FOR THE MINISTER

The Forum has a number of recommendations for the Government to consider.

1. That the Government endorses the Australian Maritime Workforce Development Strategy and supports its vision for the maritime industry and the strategy's implementation.
2. That the Government supports the continuation of the Maritime Workforce Development Forum to lead the implementation of the strategy, with an expanded membership.
3. That the Government funds the Forum to conduct a maritime workforce census every two years to build on the 2012 census and enhance the data source as a basis for improved workforce and skill demand predictions.

4. That the Government endorses a national maritime training target for each occupational category in the maritime sector, which would be set by the Forum on advice from the national maritime training organisation. The first national training target for endorsement is 545 in year one and 505 a year for the following two years—made up of 225 integrated ratings; 130 for engineer officers, with an aspirational target of 200 engineer officers if training berths can be found; and 120 for deck officers in year one with 80 per annum thereafter.
5. That the Government endorses the establishment of a national industry training organisation set up as a not-for-profit public company limited by guarantee, with a small independent board drawn from Forum membership. The organisation would be responsible for the development of a national demand aggregation model, management of the national maritime training co-contribution subsidy and the parameters and day to day operations of the training guarantee.
6. That the Australian and State Governments endorse the formation of a virtual national maritime college to bring the three AMSA-approved maritime colleges closer together, and support their memorandum of understanding.
7. That the maritime industry, AMSA, the maritime training colleges and TLISC continue to collaborate on the continuous improvement in the maritime training package, innovation in the development of training programs based on the package, and on opportunities for increased flexibility in the delivery of training and recruitment of women and Indigenous Australians to the industry.
8. That the Australian and State Governments pool resources for VET maritime training and manage the pool through a national industry training organisation as set out in Recommendation 5.
9. That the Government introduce a national maritime training co-contribution subsidy of \$10,000 per integrated rating trainee and \$20,000 per deck and engineer officer trainee in order to quickly boost maritime training numbers.
10. That the Government provide seed funding of \$1.5 million a year for three years to cover the development costs of the national aggregation model, running future biennial workforce censuses, the establishment and initial operation of a small national industry training body, the engagement of a senior person to facilitate the integration of maritime training colleges under the MOU, and support the Forum's ongoing operations.
11. That the Government implement a mandatory training obligation of 2 per cent of payroll for the maritime industry using maritime labour and covering relevant maritime qualified jobs, including those relevant jobs in resource companies in the offshore construction phase, as well as regulators, ports, pilots, towage companies and so on.
12. That the Government consult with resource companies and operational stakeholders, including maritime unions, in the offshore industry to identify gaps, if any, to manage the provision of specialist maritime services with a view to ensuring the smooth delivery of domestic development/construction projects which on occasion require specialist international maritime services which are not available in Australia. The aim would be to deal with such international usage needs objectively whilst ensuring that momentum is maintained on the delivery of domestic skills development against the long term sustainable needs of the Australian offshore and maritime industries.
13. That the Government work through Navy and the commercial sector to investigate ways to increase co-operative partnership arrangements between the commercial and naval sectors in areas such as recruitment, training, and training standards, with a report back to the Government by 1 August 2013.
14. That the Government supports the Forum in further work to explore the idea of a 'maritime cluster' to strengthen the shipping reform agenda.

These recommendations have the full support of all Forum members, except for recommendations 4, 5, 6 and 8, which are not supported by AIMPE.

APPENDIX A

NEW ENTRANTS TO THE CERTIFICATION REGISTER

All Seafarers (including non-residents) Competency Level	New to the System - by Year				
	2008	2009	2010	2011	2012
Master	31	13	21	40	37
Master less than 3000 GT	1	0	1	0	2
Master less than 500 GT	10	13	10	8	6
Master less than 500 GT (with Chief Mate < 3000 GT)	4	6	1	5	11
Master less than 500 GT (with Master < 3000 GT)	6	0	2	4	4
Chief Mate	13	15	13	11	21
Chief Mate less than 3000 GT	3	2	2	2	2
Mate less than 500 GT	3	5	0	3	2
Mate less than 500 GT (with Chief Mate < 3000 GT)	2	1	1	1	2
Mate less than 500 GT (with Watch keeper only)	0	0	0	1	0
Watch keeper (Deck)	55	54	58	81	65
<b>Total Deck Officers</b>	<b>128</b>	<b>109</b>	<b>109</b>	<b>156</b>	<b>152</b>
Engineer Class 1 (Motor)	22	8	11	16	21
Engineer Class 1 (Steam and Motor)	3	0	1	0	2
Engineer Class 1 (Steam)	1	0	1	0	0
Engineer Class 2 (Motor)	18	12	16	15	15
Engineer Class 2 (Steam)	0	2	3	0	1
Engineer Class 3 (Motor)	1	0	0	0	0
Engineer Watch keeper (Motor)	44	20	59	41	39
Engineer Watch keeper (Steam & Motor)	6	9	16	9	12
Engineer Watch keeper (Steam)	6	2	1	1	9
Engineer Watch keeper + 2E (Motor)	3	2	9	9	2
Engineer Watch keeper + 2E (Steam and Motor)	1	0	0	2	0
Engineer Watch keeper + 2E (Steam)	1	0	0	2	0
Marine Engine Driver Grade 1	2	0	0	0	0
Marine Engine Driver Grade 1 2E (Near Coastal) (Motor)	0	2	1	0	1
Marine Engine Driver Grade 1 CE <15 n mile (Motor)	1	0	0	0	0
<b>Total Engineers</b>	<b>109</b>	<b>57</b>	<b>118</b>	<b>95</b>	<b>102</b>
Chief Integrated Rating	1	1	1	0	1
Integrated Rating	119	156	156	137	185
Deck Rating	19	5	29	11	4
Engine Room Rating	8	5	22	9	7
Able Seaman	28	26	15	20	14
<b>Total Ratings</b>	<b>175</b>	<b>193</b>	<b>223</b>	<b>177</b>	<b>211</b>

Seafarers "new" since 1995 - some revalidated in 2008 or later after qualifications expired prior to 1995. Includes Recognitions of foreign qualifications (AMSA, 2012)

## TARGET CALCULATIONS BY STREAM

Based on the census data and consultations with industry experts it is possible to broadly estimate the national training target as follows:  $TT = \sum (NA, DM, SSG, LT, EG, TW, FR)$ , where:

TT = Training Target per year for next 3 years (demand by occupational group)

NA = Natural Attrition during the next 3 years (turnover by group)

DM = Demographic Movement over the next 3 years (aging workforce by group)

SSG = Strategic Skills Gap (current known gap by group)

LT = Lead Time (training time by group)

EG = Economic Growth over the next 3 years - estimated (shipping reform impact)

TW = Total Workforce (current by census, extrapolated by a factor of 7 per cent)

FR = Full Replacement (likely recruitment of already qualified people by group)

## INTEGRATED RATINGS

- There are about 1,607 integrated ratings (1,502 ratings extrapolated by 7 per cent).
- There is an average oversupply of 40 integrated ratings,<sup>21</sup> so approximately 1,550 integrated ratings are required at any one time.
- AMSA is recognising around 200 new integrated ratings entrants to the certification register annually. Of these, over 95% have newly completed their training.
- Natural attrition is running at around 3 per cent, and the rate of replenishment for retiring workers is around 3 per cent also, so a total replenishment rate of 6 per cent is required to maintain equilibrium.
- The training rate (7 per cent) is therefore 1 per cent above the equilibrium level
- The industry growth rate over 2013 to 2015 is estimated at 9 per cent per annum<sup>22</sup> (resources investment pipeline, shipping reform, growth in the national freight task, growth in marine tourism)
- The shortfall is therefore 8 per cent or 124 integrated ratings pa (or if the AMSA certificate figure is used, reduce this by 26 (200-124=26))
- The total number of integrated ratings that need to commence training is 225 (or 25 more than trained currently each year as new entrants). Viewed alternatively the intake should be in the ranges of 210 to 235 cadets and trainees each year over the three year period 2013 to 2015.
- As it takes 15 months to train an integrated rating, the immediate shortfall between mid 2013 and mid 2014 could be met by up skilling deckhands; that is, those with at least the AMSA Certificate of Safety Training (CoST) licence, plus some targeted efforts at providing the required sea time experience.

Therefore the integrated rating target for the purposes of this Strategy report should be in the range 210 to 236 annually over 2013 to 2015, or this could be rounded out to 225 (roughly the midpoint between 210 and 236) integrated ratings as single target.

<sup>21</sup> Maritime Union of Australia data supplied to the Forum February 2013

<sup>22</sup> Maritime Union of Australia estimate 2013

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## ENGINEERING OFFICERS

- There are 1,098 engineering officers from the census figures (1,175 engineers if extrapolated by 7 per cent).
- As at February 2013, AMSA advises there are 1,573 Australian resident holders of AMSA Engineering Certificates of Competency, including 1,111 Engineers at the Class 1 and Class 2 grade.
- From AMSA figures, there are currently 462 active Australian engineer watch keeper certificates of competency, there are 68 recognised foreign engineer watch keepers giving a total of 530 engineer watch keepers.
- On AMSA's understanding, there are no engineer watch keepers actively seeking work.
- AMSA recognised 62 engineer watch keepers in 2012 who had newly completed their training, with 63 in 2011 and 81 in 2010. Of these 62 in 2012, 14 are foreign cadets who are not expected to enter the Australian industry, leaving 48 new entrants to the Australian industry.
- From AMSA figures there are 51 active certificates of recognition and 17 active restricted certificates of recognition.
- Natural attrition is running at around 3 per cent, causal factors include cadets electing not to continue with their training, cadets failing their college examinations and AMSA oral examinations and the rate of replenishment for retiring workers is around 3 per cent also, so a total replenishment rate of 6 per cent is required to at least maintain equilibrium.
- The industry growth rate over 2013 to 2015 is estimated at 9 per cent per annum<sup>23</sup> (resources investment pipeline, shipping reform, growth in the national freight task, growth in marine tourism)
- The Australian Maritime College (AMC) trains more cadets than the other two colleges combined – AMSA estimates to current college capacity to be Hunter (40), Challenger (40) and AMC (96) with a total of 176 places. AMSA estimates the 2013 enrolment to be 12 each for Hunter and Challenger and 50 for the AMC (74 in total).
- Because it takes three and a half years (including leave) to train an engineer officer, it is proposed to recruit 200 engineer officer trainees each year for the first five years, reverting to 130 per annum thereafter. Ideally a contingent could be drawn from qualified tradespersons working in Australian industries as these workers can be trained quickly while new cadets learn their maritime trade. Additionally, permanent migration to replace 457 visa holders could bolster the cadre of maritime engineers in the short term.

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## DECK OFFICERS

- There are 1,341 deck officers (1,435 extrapolated by 7 per cent).
- AMSA had 161 new entrant deck officers in 2012, 155 in 2011 and 112 in 2010.
- The industry growth rate over 2013 to 2015 is estimated at 9 per cent per annum<sup>24</sup> (resources investment pipeline, shipping reform, growth in the national freight task, growth in marine tourism)
- Given that it takes 30 to 36 months to train a cadet to the deck watch keeper level, the proposed training intake in year one is 120. The proposed training intake for years two, three and four is 80 per annum.
- Because lead time to train a deck officer, it may be necessary to recruit from overseas and some rationalisation of pilotage requirements to address the immediate shortfall.

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23 Maritime Union of Australia estimate 2013

24 Maritime Union of Australia estimate 2013

APPENDIX C

TRAINING REQUIRED BY SEAFARER CLASSIFICATION MARINE ORDER 3, ISSUE 6 (FROM 1.1.08)

Classification	Tertiary institution training	Sea time
<b>Deck</b>		
<b>Watch keeper (Deck)</b>		
IR	6 months	24 months sea service after qualifying as IR on vessels $\geq 500GT$
Rating	6 months	36 months on vessels $\geq 500GT$
Deck Cadet	6 months	18 months sea service approved pre-sea and approved & monitored course on vessels $\geq 500GT$
Chief Mate or Chief Mate <3000 GT	10 months	12 months while holding a Watch keeper (Deck) on vessels $\geq 500 GT$ (Chief Mate < 3000 <i>GT</i> ) or $\geq 3000 GT$ (Chief Mate)
Master or Master <3000 GT	none	36 months of which at least 12 months while holding Chief Mate/Chief Mate <3000 GT on vessels $\geq 500 GT$ (Master < 3000 <i>GT</i> ) or 24 months of the 36 months on vessels $\geq 3000 GT$ (Master)
<b>Engineer</b>		
Engineer Watch keeper		
Cadet	3 years	36 weeks on vessels with $\geq 750 kW$ propulsion power
Trades trainee	6 months + may require workshop skills of up to 9 months	36 weeks on vessels with $\geq 750 kW$ propulsion power
Engineer Class 2	10 months	15 months while holding an Engineer Watch keeper on vessels with $\geq 750 kW$ propulsion power
Engineer Class 1	3 months	30 months of which at least 15 months while holding Engineer Class 2. 15 months of the 30 months served on vessels with $\geq 3000 kW$ propulsion power
<b>Integrated Ratings</b>		
Integrated Rating	12-14 weeks	36 weeks
Chief Integrated Rating	4 weeks	24 months sea service while holding an IR certificate

## RECOMMENDATIONS AND OPTIONS IN THE HAMILTON REVIEW OF THE AUSTRALIAN MARITIME COLLEGE

### Funding Options

**Option 1** Negotiate with all States and Territories to agree that students from their States have access to funded VET maritime places no matter where they are delivered. This is done in some 'niche' areas (watchmaking, piano tuning) where there are thin markets and thus insufficient demand for training in each State, and more broadly by smaller jurisdictions 'buying' cross-border access for their students to programs where there is not sufficient local demand. The option should probably apply to all maritime training bodies, or at least those offering AMSA accredited courses. It would require Tasmania to increase its current funding considerably given the number of Tasmanians undertaking maritime training.

**Option 2** The Commonwealth provide directly a separate small program to be available for VET-level maritime training, based on user demand, and funded on a weighted student contact hour ('nominal hour') per enrolment basis, again available at any accredited college. This could be allocated directly by the Commonwealth or via the States. (This derives from the 2009 Noonan option).

**Option 3** An additional amount be allocated to the University of Tasmania, for allocation to maritime VET or higher education at the sub-degree level according to demand. It would require legislation specifically targeted to maritime education at the AMC, enabling the use of funds flexibly for higher education or VET delivery (third party delivery via AMC partners could be allowed).

**Option 4** The AMC National Institute Fund allocation be increased at least in the short term to cover explicitly both the cost of national VET provision and maintenance of infrastructure. The amount could be wound back over say 3 years to give the AMC time to develop further fee-for-service activity.

### Recommendations

**Recommendation 1** The Australian Maritime College should appoint a widely representative advisory group to work with the Principal and other senior staff to ensure the AMC has available current knowledge of industry needs for courses, just-in-time training, and research and development. Such a group should include experienced people from of all parts of the industry.

**Recommendation 2** The Australian Maritime College should expand provision of online courses and accelerated delivery of courses to meet industry needs.

**Recommendation 3** Ad hoc funding of Australian Maritime College Vocational Education and Training costs should be replaced by an increase in the National Institute Fund grant at least in the short term to cover explicitly both the cost of national VET provision and maintenance of infrastructure. The amount could be wound back to closer to the current level over say 3 years to give the AMC time to develop further fee-for-service activity.

**Recommendation 4** The Australian Maritime College should further develop its co-operative links with other providers, including through the **MOU** with Challenger and Hunter TAFEs, but also with other tertiary providers, to become the hub of a national network of maritime training and education so that AMC and other courses are available more widely across Australia through local delivery arrangements where online delivery is not feasible.

**Recommendation 5** The University should amend Ordinance 15 to provide for the Australian Maritime College Board to comprise up to 8 members plus the Principal, with members between them having direct experience or knowledge of:

- working in the maritime industry;
- shipping regulation and safety requirements;
- vocational and higher education and research;
- financial matters; and
- organisational strategy.

## INTERNATIONAL COMPARISON: THE UNITED KINGDOM'S SMART SCHEME FOR MARITIME TRAINING COSTS

The Support for Maritime Training (SMarT) scheme was established in 1998 following the Government White Paper initiative 'Charting a New Course'. SMarT aims to facilitate the adequate supply of UK maritime expertise to meet the nation's economic and strategic requirements. This is achieved through allocating financial assistance to organisations which provide merchant fleet training.

SMarT covers approximately 50 per cent of actual training costs and is paid to the Training Providers (shipping companies) who sponsor the seafarers, not to individuals or colleges. There are now three categories of SMarT (1, 3 and 5) which fund training towards a first Certificate of Competency, single courses watch rating training and also rating to officer conversions. The highest proportion of the budget is claimed under SMarT 1, which funds officer trainees for their first STCW Certificate of Competency.

SMarT is currently administered on behalf of the Maritime and Coastguard Agency (MCA) by MaTSU, an administrative body and independent unit of AEA Technology plc. The budget is held by MCA, while MaTSU provides the funding direct to Training Providers and then conducts audits to ensure compliance.

### Coverage:

SMarT was streamlined to its current form in FY 11/12 and rationalised to just three categories.

The Department for Transport has allocated a fixed annual budget of £12m until 31 March 2015 to support maritime training. The majority of this money will be focused on supporting initial training for cadets studying at junior officer level (SMarT 1). It is estimated that this will enable the MCA to contribute to the training of up to 925 new cadets starting their training each academic year.

The Government has made available additional funds for Financial Year 2012-13 to alleviate some of the extra training costs associated with the Manila Amendments to the International Convention on Standards of Training, Certification and Watch keeping (STCW) '78, as amended.

Full guidelines may be found at: <http://www.dft.gov.uk/mca/mcga07-home/workingatsea/mcga-trainingandcert/mcga-careersatsea/dms-stc-smart.htm>

### Framework for SMarT 1: (illustrative)

SMarT funding must not be claimed for individuals in receipt of any form of apprenticeship funding.

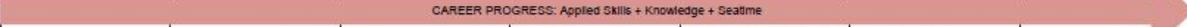
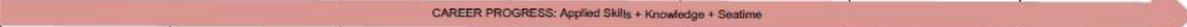
SMarT 1 funding is applicable to trainee officers, serving in a supernumerary capacity, who are following an approved programme that leads to a first Certificate of Competency (CoC) in one of the following capacities:

- a. Deck Officer of the Watch Unlimited (STCW Reg II/1)
- b. Engineer Officer of the Watch Unlimited (STCW Reg III/1)
- c. Electro-Technical Officer (STCW Reg III/6)

Payments have been configured to allow for a greater proportion to be made by way of an 'outcome payment' referred to as the Final Payment. This payment can be claimed after the trainee has obtained their first Certificate of Competency. The revised weekly instalment rates from 1 August 2012 will be:

- d. First year trainees (weeks 1-50): £80 per instalment
- e. Second and third year trainees (weeks 51-150) £110 per instalment
- f. Final Payment: £2950

Adult entry trainee engineer (with a Letter of Initial Assessment): 50 instalments at the higher rate of £110 per instalment.

AUSTRALIAN MARITIME SAFETY AUTHORITY/STCW'95 CONVENTION CERTIFIED ROLE BY AUSTRALIAN QUALIFICATION FRAMEWORK LEVEL										
	1	2	3	4	5	6	7	8	9	10
PROFESSIONAL PATHWAYS	Skills + Knowledge + Experience 									
							Naval Architect Hydrograper Ship Surveyor Boat Builder Fleet Director	Pilot Senior Naval Architect Senior Hydrograper Marine Structural Engineer Engineering Superintendent Marine Superintendent Tug Operations Manager	Harbour Master	
ENGINEER			Marine Engine Driver (MED) Grade 3 MED Grade 2	Engineer Cadet/Trainee MED Grade 1	Engineer Class 3 Engineer Watchkeeper	Engineer Class 2	Engineer Class 1 Chief Engineer			
CAREER PROGRESS: Applied Skills + Knowledge + Seetime 										
										
DECK	General Purpose Hand (Deckhand)	Coxswain Deckhand	Master Class 5 Skipper Grade 3 Integrated Rating	Deck Cadet (Pre-sea) Master Class 4 Skipper Grade 2 Chief Integrated Rating	Master Class 3 Skipper Grade 1 Deck Watchkeeper	Master >500G Chief Mate <3000GT Mate/Officer <500GT	Master <3000GT Chief Mate/Chief Officer Master			
CAREER PROGRESS: Applied Skills + Knowledge + Seetime 										
										
Qualification	Certificate I	Certificate II	Certificate III	Certificate IV	Diploma	Advanced Diploma Associate Degree	Bachelor Degree	Bach. Degree Honours Graduate Certificate Graduate Diploma	Masters Degree	Doctoral Degree
Vocational Training & Education							Higher Education			
FUNDING	<p>(a) State-based User Choice if placed on a 'buying' priority list for traineeships. Normally fixed or 'best' price bid required from RTO.</p> <p>(b) National Workforce Development Fund (\$700 million to 2016). National priority occupations, demand is aggregated in EOLs and priorities funded. Employers have to match funding from 30% to 60%. Funding at fixed level with little flexibility (~\$5K Certificates, \$10k above to Grad Cert). Employers can get payroll tax relief.</p> <p>(c) Productivity Place Program. It is competitive, prioritised and mostly removed in favour of NWFDF.</p> <p>(d) AMC under the Maritime Legislation Amendment Act 2007 can access funds direct to train individuals from any state to "skill for demand".</p> <p>(e) General. Traineeships and where Diploma or higher credit into a Bachelor Degree the student is eligible for VET-FEE-HELP (aka 'HECS for VET').</p>						<p>(f) HE Student Funding: HECS and direct funding. Uncapped for HE awards capped at pre-HE awards such as those typically delivered in vocational market (Diploma/Advanced Diploma)</p>			
										