Chapter 4

Build in Australia

Recommendation 3

Given the weight of the evidence about the strategic, military, national security and economic benefits, the committee recommends that the government require tenderers for the future submarine project to build, maintain, and sustain Australia's future submarines in Australia.

When selecting its preferred tenderer the government must give priority to:

- **Australian content in the future submarines; and**
- **proposals that would achieve a high degree of self-reliance in maintaining, sustaining and upgrading the future submarines in Australia for the entirety of their lifecycle.**

4.1 The acquisition of future submarines is a large and complex design and construction program, which demands personnel with unique skills and capabilities augmented by practical experiences in this area of expertise. In this chapter, the committee considers whether Australia has the capacity to build submarines and, if so, the advantages of a local construction. It also gives particular attention to whether the future submarine, because of its vital importance to Defence's capability and its complexity, should be built in Australia in order to maintain it effectively throughout its operational life.

Expertise and skills in Australia

4.2 In March 2013, Defence published its *Future Submarine Industry Skills Plan*, which was the result of a study on the current state of naval shipbuilding in Australia, undertaken by an expert industry panel chaired by Mr David Mortimer. The panel assessed the capacity of Australia's major shipyard to deliver the ships in the Defence Capability Plan (DCP) including the future submarines. It concluded that:

> …Australia has a strong cadre of people who can build complex systems and construct warships. Australia has good skills in the development and integration of combat and platform management systems. Australia has also developed world-leading submarine-systems in areas such as electronic warfare and sonar. These skills have been built up over several decades, benefitting from the continuity of work and challenge of successive projects.

> Shipyards have the facilities to build the warships required, although some investment would be required to develop launch points for the larger supply vessels.[1]

Capability and capacity

4.3 Most witnesses disagreed strongly with claims that Australia did not have the capacity or capability to build the ships in Australia. Many drew on the Collins experience to demonstrate that a submarine workforce could be built up from a low base. Moreover, some argued forcefully that Australia was in a better position today to start a submarine build program than it was almost 30 years ago for the Collins.

4.4 For example, Mr Whiley noted the knowledge that had developed over the last 25 years, which began with 'approximately 150 ASC engineers and designers embedded in Kockums, the original Swedish Collins class designer, working on Australia's first-of-class submarine'. From this engineering base, ASC developed a through-life support engineering capability for the submarine. Mr Whiley explained that it was able to do so because ASC was intimately involved in the original design and build process.[2] He explained:

> Australia is much better prepared than it was in the 1980s, when it was decided to design and build Collins. Since then we have learned and achieved so much. We have developed a quarter of a century of submarine capability and knowledge. We have developed key technical and supply chain capability across Australia and we have learned to work together effectively as one team and we are now ready to help deliver the separate solution for the future.[3]

4.5 While the Submarine Institute of Australia (SIA) noted that submarines were costly and required advanced levels of skills to operate and sustain, it drew attention to the combined effort that had gone into developing a formidable submarine force in Australia.[4] Commander Frank Owen similarly pointed out that Australia had invested a lot in its capacity to sustain and upgrade its submarines and was justified in feeling very proud of the result.[5]

4.6 The committee has detailed the problems that beset the Collins class submarine until recently.[6] The committee has noted, however, the strides that ASC

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1 See Department of Defence, *Future Submarine Industry Skills Plan*, A Plan for the Naval Shipbuilding Industry, p. 82, http://www.defence.gov.au/dmo/Multimedia/FSISPWEB-9-4506.pdf (accessed 7 August 2014).

2 *Committee Hansard*, 14 October 2014, p. 21.

3 *Committee Hansard*, 14 October 2014, p. 22.

4 *Committee Hansard*, 30 September 2014, p. 1.

5 *Committee Hansard*, 30 September 2014, p. 1.

6 See chapter 6, paragraphs 6.42–6.50.

have taken to improve its performance on the Collins sustainment program since Coles commenced his review in 2011.

4.7 Mr Andrew Sudholz, who has worked at ASC for almost 23 years and started as a rigger, noted the 'fantastic changes in the infrastructure of the submarine facility' that have come online in the last few months making ASC much more efficient. He noted that the full-cycle docking of HMAS *Farncomb* was 'on track to be completed in half the time it has taken in the past'.[7] Indeed, committee members saw this work taking place during its site visit to ASC, Osborne. Members toured the three-storey dry dock maintenance support tower that replaced the old scaffolding. This innovation allows workers easier access to the submarines and has provided a definite boost to productivity. Mr Sudholz indicated that:

> The learning achieved and experience gained in the Collins project leaves me in no doubt whatsoever that, given the right design, the next generation of submarines can be built here in Adelaide efficiently, delivering a product which will give the Australian Navy the capability it needs to keep this amazing nation secure.[8]

4.8 The people who work on the submarines gave compelling evidence of their ability not only to maintain but also to build the future submarine. In Mr Whiley's view, the maintenance work on the Collins was 'probably harder and more complex to work on than build' and, in fact, that the work carried out in full-cycle docking was 'very, very akin to a build'. He argued that ASC's workforce was more highly skilled than it was during construction and described some of the innovative and highly skilled work being undertaken on the Collins: [9]

> …we have section 100, which is the aft end of the boat, cut off, and we had the main motor—a 40-tonne motor—removed from the boat, to go and do the maintenance. If you had been here 15, 17 or 18 years ago [during the build stage], you would have seen a very similar scenario, with sections of submarine apart, just like you saw today. So it is very akin to a build environment, the way we are doing maintenance today. We are taking the equivalent outside to the platform, refurbishing it off the platform and reassembling it, as opposed to doing the maintenance on the platform inside the equipment. So it is a different philosophy from a maintenance perspective. And, to do that, we have had to generate the seventh and eighth boat set of parts to have that rotated, to a full set of parts going to the platform.[10]

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7 *Committee Hansard*, 14 October 2014, p. 37.

8 *Committee Hansard*, 14 October 2014, p. 37. Mr Sudholz began an adult apprenticeship as a mechanical fitter after two years and has since completed a Diploma of Mechanical Engineering.

9 *Committee Hansard*, 14 October 2014, p. 31.

10 *Committee Hansard*, 14 October 2014, p. 31.

4.9 Mr Burns also drew attention to some of the significant changes that have recently taken place with the maintenance program for the Collins. He refuted the notion that Australia had lost the capability to build submarines and likewise referred to the new technique of cutting open the submarines to gain access to the motor. He argued that such an exercise was not just maintaining submarines:

> When you can cut open a submarine and put it back together, those are build skills.[11]

4.10 Mr Hamilton-Smith noted that the Collins was an outstanding product and argued:

> …the South Australian government feels that the country has successfully built both naval ships and submarines in South Australia using overseas designed technology transfer; and now, with even more experience under our belts, there is no reason Australian industry and Australian workers cannot do it again.[12]

4.11 According to Mr Hamilton-Smith, although there were some problems with technology transfer, 'we have done it before and can do again'.[13]

4.12 Mr Whiley also referred to the considerable submarine support network of Australian companies and organisations supporting the Collins class program including universities, subject matter experts, strong capability partnerships, ongoing relationships with government research establishments, such as DSTO, and a highly sophisticated network of industry partners. He elaborated:

> Our industry partners include specialist submarine support businesses—such as Babcock, Pacific Marine Batteries and MacTaggart Scott—approximately 120 small to medium enterprises and more than 2,000 associated companies that supply products and services. In fact, ASC manages one of the largest and most complex supply chains in Australia.[14]

4.13 Based on the evidence presented to the committee and independent studies, there can be no doubt that Australia has a substantial and solid foundation on which to build a competent and highly skilled workforce for the construction of the future submarines.

4.14 There are numerous advantages that flow from building naval ships in-country, especially the highly complex and strategically important vessels such as the submarine.

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11 *Committee Hansard*, 14 October 2014, p. 18.

12 *Committee Hansard*, 14 October 2014, p. 3.

13 *Committee Hansard*, 14 October 2014, p. 6.

14 *Committee Hansard*, 14 October 2014, p. 22.

Costs

4.15 According to Commodore Greenfield, an Australian build should be no more expensive than an overseas build. He stated that:

> A sail-away cost of $20 billion for 12 submarines built in Australia is entirely feasible, and Australian industry has much to offer in solving the truly unique engineering challenges.[15]

4.16 Consistent with Commodore Greenfield's estimate, Professor Roos informed the committee that it would cost the same to build submarines, no matter where they were built, which is $400,000 per tonne for the modern submarine.

4.17 He stated further, for 'all modern submarines, the number is actually $400,000 plus or minus 16 per cent', no matter when or where they were built.[16]

4.18 Because it will cost no more or no less to build the submarine in Australia or elsewhere, such as Japan or German, the cost would be $20 billion.[17]

4.19 The cost estimates of Commodore Greenfield and Professor Roos have been confirmed recently by one potential bidder for the Future Submarine Project—Thyssen Krupp Marine Systems.

4.20 TKMS CEO Phillip Stanford told ABC Radio that his company could build the new submarines for $20 billion in Australia:

> We believe we can deliver 12 submarines of the size and capability that Australia requires, in a price of $20 billion, and that's an indicative price, and includes all the programmatic aspects to deliver the submarine in Australia.[18]

4.21 Saab Kockums—another submarine builder—has also said they want a chance to be part of a competitive tender:

> If there is an open competition, Saab Kockums will be in it. We can compete in the battle for affordability.[19]

Economic advantages

4.22 In its report on the new supply ships, the committee also considered the broad benefits, including the economic advantages, to be gained from an indigenous naval ship building and repair industry. For example, Mr Simon Kennedy, Adelaide Ship

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15 Commodore Greenfield, *Committee Hansard*, 30 September 2014, p. 24.

16 *Committee Hansard*, 8 October 2014, p. 16.

17 *Committee Hansard*, 8 October 2014, p. 16.

18 *Phillip Stanford*, CEO TKMS Australia, 'ABC AM', 24 October 2014.

19 *Australian Financial Review*, 12 September 2014, p. 7.

Construction International and Smart Fabrication, wrote of the positive returns on investment from shipbuilding in Australia:

> Every dollar spent on a ship or submarine within Australia goes further than the initial transaction. Australian primes engage Australian manufacturers who engage Australian subcontractors. The training and development required to build the ships and submarines not only contributes to our local economy, but also our local knowledge and skills base.[20]

4.23 An ASC paper on Australia's shipbuilding industry also noted the many advantages that flow through to the national economy from investment in the Australian naval industry—an advanced manufacturing, high value-add sector. The paper referred to studies on the economic effects of projects such as the ANZAC Frigate and the Coastal Mine Hunters projects showing that 'basic benefits to the national economy from in-country construction are nearly double the value of the investment'. Taken together with the flow-through effects of in-country construction, it argued that 'the human capital generated by large projects and innovation spill-overs from in-country design and development work, contribute substantially to the national economy'. It also referred to generating innovation and thus creating even greater spill-overs.[21]

4.24 According to the Australian Industry & Defence Network Inc, naval shipbuilding directly employs some 6,000 people and indirectly nearly 15,000 people. It stated further:

> The industry makes a contribution to the Australian economy of between (conservatively) $1.5 billion up to around $2.3 billion (based on total multipliers) per annum.
>
> Around 7,400 full time equivalent (FTE) jobs across Australia can be attributed to the production of naval vessels by the five largest prime contractors in the industry. In addition, up to 7,560 FTE jobs can be attributed to the activities associated with through life support of naval vessels.[22]

4.25 In the Network's view, more often than not the Defence Department's value for money (VFM) criteria only considers the short term acquisition costs and this drives procurement often to an overseas supplier. Furthermore, that 'a more holistic "Whole of Life" VFM criteria would ensure a more realistic appraisal of competing bids'.[23]

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20 Mr Simon Kennedy, Adelaide Ship Construction International and Smart Fabrication, *Submission 8*, p. 2.

21 An ASC paper, *A Sustainable Australian Naval Industry*, issue 1.0, pp. 15 and 19, https://www.asc.com.au/Documents/Speeches/A%20Sustainable%20Australian%20Naval%20Industry.pdf (accessed 7 August 2014).

22 *Submission 7*, p. 2.

23 *Submission 7*, p. 3.

4.26 The ACIL Allen report to the Australian Industry Group, *Naval Shipbuilding Through Life Support*, produced the set of figures quoted above, including the potential $2.3 billion contribution from naval shipbuilding and through-life support to the economy. This report also noted other significant economic benefits—technology transfer, transfer of expertise, and improved practices in areas such as quality assurance, business planning, sub-contracting and dealing with Defence.[24]

4.27 It drew attention to the 'hidden but real, financial costs that are likely to arise if a decision is taken to source ships from overseas or between different approaches to Australian design, build and sustainment'. One of the key considerations was the possible additional costs to maintain the vessels throughout their service life.

4.28 Some witnesses directed their comments to the specific contribution that an in-country build of the submarines would make to Australia's economy. Looking back at the Collins, Commander Owen argued that building the submarines proved to be an enormous fillip to Australian industry, providing 'tax clawback and benefits to the economy that were significant and long-lasting'.[25]

4.29 Two witnesses produced statistics concerned solely with the contribution that a submarine build would make to Australia's economy and workforce. Professor Roos argued that it would be more expensive for the economy to buy the submarines overseas.[26]

4.30 Professor Roos said that the overwhelming conclusion was that it would cost no more to build locally.

4.31 This was partly because Australia has a unique set of operating environments and requirements so there is no off-the-shelf solution available, and partly because there are only four potential international partners to build the submarines (Germany, France, Japan and Sweden) and they are all high cost countries. According to Professor Roos:

> The conclusions on these very conservative assumptions is that Australia as a country is at least $21bn better off to build in Australia than to purchase overseas in addition to creating 120,000 man years of additional jobs in the economy over the life of the project as compared to building overseas.[27]

4.32 Dr Peter Brain quoted the same figures on the benefits to the economy from building the future submarines in Australia.[28]

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24 ACIL Allen Consulting, *Naval Shipbuilding & Through Life Support, Economic Value to Australia*, ACIL Allen report to Australian Industry Group, December 2013, p. ii.

25 *Committee Hansard*, 30 September 2014, p. 5.

26 See *Committee Hansard*, 8 October 2014, p. 22.

27 *Submission 25*, p. 17.

28 Dr Brain is the Executive Director of the National Institute of Economic and Industry Research but was appearing in a private capacity. See *Committee Hansard*, 13 October 2014, p. 33.

4.33 He explained that the findings were based on the following numbers—12 submarines are purchased all built in Australia or all built overseas. The cost for the 12 submarines is $21 billion. Two assumptions underpin the calculations:

- the expenditures for the submarines are offset elsewhere by reductions in expenditures that otherwise would have been done if the submarines had not been purchased, and that reduction is independent of whether it is built here or built overseas; and
- there are adequate resources to allow the submarines to be built efficiently (resources that will be released by the motor vehicle contraction or alternatively the similar skill resources likely to be released by the downturn in the construction-for-mining industry and also the mining industry itself).[29]

4.34 The committee notes the importance of taking into account the broader economic benefits that accrue to the economy from having naval ships built in Australia.

4.35 Indeed, the committee noted in Part I of its report on Australia's naval shipbuilding industry the many and significant benefits that flow through to the economy from the construction of naval ships in country. They included: the establishment and further development of a strong industrial base supported by a skilled workforce; expanded indigenous research and development, design, production and management capabilities; and extensive technology transfer across a broad spectrum of activities.

4.36 There are also savings to be considered that may derive from being better able to support the vessels throughout their operational life.

Through-life sustainment and upgrades

4.37 Submarines are no different from other highly complex or large naval vessels in that their operating and sustainment costs far outweigh the original purchase cost. According to Rear Admiral Briggs, in broad terms it is generally one-third to build, two-thirds to own and operate.[30]

4.38 When considering the costs of an acquisition, industry participants emphasised the need to take account of the through-life expenses which may be many times greater than the initial cost of acquisition. Mr Andrew Fletcher, Defence SA noted the significant through-life support costs as compared to the purchase cost:

> …one of the challenges before our nation is for the Defence department to seriously look at whole-of-life-cycle costing when making procurement decisions, because generally whole-of-life-cycle sustainment cost is up to two, three or four times the procurement cost, so you get a very different

29 *Committee Hansard*, 13 October 2014, p. 33.

30 *Committee Hansard*, 30 September 2014, p. 18.

> answer if you model whole-of-life-cycle costing versus the initial procurement.[31]

4.39 Some witnesses held that there was a strong and direct connection between the build cost and operating and sustainment cost. For example Rear Admiral Briggs suggested that what is learnt through build enables greater efficiency in sustaining.[32] According to Rear Admiral Briggs, if you have the capacity in country to maintain and evolve, you are much better able to manage the cost of ownership.[33] He argued:

> … if you focus only on build costs, that is in fact a false economy, given you are focusing on a cost that is one-third of your total project and also a cost that is likely to lead to a more efficient procurement and operation of your sustainment costs.[34]

4.40 In other words, if the focus is not on the total cost of ownership from the beginning, there is the risk of purchasing a submarine that 'might be cheaper to buy but much more expensive to operate and own'. Hence, according to Rear Admiral Briggs, the taxpayer ends up 'paying a lot more for it in the long run'.[35]

4.41 Commander Owen agreed that the true cost in a Defence program is its whole-of-life costs.[36] Mr Fletcher also stressed the point that the initial penalty for upfront procurement in Australia would be defrayed, if the 'whole-of-life-cycle costs and the information, knowledge and skills base is preserved and maintained for future upgrades and sustainment of those vessel'. Likewise, Mr Hamilton-Smith argued that the decision to build off-shore 'will cost the Commonwealth government far more through the full life cycle than any possible savings made in the initial procurement'.

Submarines and national security

4.42 The size and nature of the Australian continent requires a particular focus on the strategic issues that govern our maritime environment. As an isolated island nation with vulnerable northern approaches, Australia attaches great importance to its capability to defend its land mass and secure its sea lanes. Australia's physical environment with its expansive coastlines and long exposed trade routes dictates that Australia retains an independent, self-reliant and effective maritime capability.

4.43 Many witnesses argued that Australia not only needs a potent naval force but must be able to maintain and upgrade that force if it is to keep Australia secure into the future.

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31 *Committee Hansard*, 21 July 2014, p. 51.

32 *Committee Hansard*, 30 September 2014, p. 18.

33 *Committee Hansard*, 30 September 2014, p. 18.

34 *Committee Hansard*, 30 September 2014, p. 18.

35 *Committee Hansard*, 30 September 2014, p. 18.

36 *Committee Hansard*, 30 September 2014, p. 3.

National security

4.44 In Part I of its report, the committee considered the security aspects related to the actual construction of naval vessels. It noted that to fulfil its primary role to protect the national interest, Defence must ensure that it has control over the capability and technology needed to secure operational independence in areas vital to Australia's defence. For Navy, that means that its fleet must be equipped to best meet the security challenges it confronts.

4.45 Many argued that to do so, Australia needs an indigenous shipbuilding industry and a domestic capability to support Australia's naval ships and their systems throughout their working lives. For example, the Australian Manufacturing Workers' Union (AMWU) argued that the capability of Australia's naval shipbuilding industry was 'foremost a national security issue as well as being an issue for our economy and our manufacturing industry'.[37]

4.46 Evidence taken since then soundly reinforced the contention that sustainment of naval vessels is a strategic capability in itself.

4.47 Mr Jackman maintained that a 'vibrant and sustained naval shipbuilding industry of all shapes and forms is vital to our self-reliance'.[38] The Australian Business Defence Industry acknowledged that while matters dealing with financial multipliers, economic activity, employment and the retention of important skills were important considerations, the principal focus should be on those aspects that are associated with the mitigation of high strategic risk. It argued that governments need to consider investment decisions on 'strategic grounds, not ideological grounds'.[39]

4.48 The committee has heard the central role that submarines have in promoting Australia's national interests—particularly protecting its sea lanes and covert surveillance and intelligence gathering during times of heighten tension.[40]

4.49 With regard to the submarine industrial capacity in Australia, the SIA argued that it would be virtually impossible to sustain the submarine capability at an effective level without the Australian submarine building industry and its supporting industries. It advocated that Australia build on the submarine capacity it has fought hard to establish. It suggested that Australia integrate, assemble and sustain the submarine force 'using the best, most cost-effective and relevant technology'; and, most importantly, that it preserve its sovereignty to ensure the safe and secure conduct of its

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37 *Submission 4*, p. [1].

38 *Committee Hansard*, 14 October 2014, p. 5.

39 *Committee Hansard*, 8 October 2014, p. 15.

40 For a more detailed account of the critical importance of the submarine fleet to Australia's national security, see chapter 6, paragraphs 6.4–6.6.

future submarine operations. In the SIA's view, it seemed highly likely that this could 'only be achieved in an assembly facility in Australia'.[41]

4.50 Dr White, with 40 years' experience in naval shipbuilding and major infrastructure projects, noted the advantages of a local build. In his opinion, if you are going to build the submarines here, there are tremendous advantages, almost necessities, in building the first one here.[42]

Local build

4.51 With highly complex combat vessels, such as a submarine, many witnesses rejected the notion that the ships should be built overseas. They argued that in order to have the skills and experience to maintain the vessel, they must be built in Australia. Professor Roos reasoned:

> We will be the only country using this type of submarine with this type of capability and this means that we will be the parent navy for these things, and that means we have to do it here with the associated capacity, for which we have learning.[43]

4.52 Many witnesses said that for national security reasons it was imperative for Australia to build the submarines in Australia so that it would have the resident knowledge, skills, know-how and infrastructure needed to sustain and upgrade the boats throughout their long service life. Some raised concerns about potential threats to the submarine's supply chain in times of tension when Australia's trade routes may be under threat or no longer available.[44]

4.53 In this regard, Commander Owen suggested that 'if we are completely reliant on the supply of technology and perhaps components from overseas beyond what we have managed to stockpile then the implications could be quite significant'. He clearly indicated that the building of the new future submarine project in Australia was the best option for this country.[45] Commander Owen took the committee back in history to 1981 and the lessons learnt from the Oberon, which were submarines operated by Australia but built in the United Kingdom. He explained:

> We were second cousin, twice removed of the logistics support capability surrounding that submarine. When the host nation stopped operating them, the supplies dried up and we had occasions [where] submarines were unable to sail because of vital components and spare parts that were unavailable.

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41 *Committee Hansard*, 30 September 2014, p. 3.

42 *Committee Hansard*, 13 October 2014, p. 25.

43 *Committee Hansard*, 8 October 2014, p. 16.

44 See also chapter 7 of Part I of the committee's report, *Future of Australia's naval shipbuilding industry: Tender process for the navy's new supply ships,* August 2014.

45 *Committee Hansard*, 30 September 2014, p. 3.

> We determined at that time that the best way to achieve that sort of logistical self-reliance…which was to achieve reliability in our defence capability—was to build them in Australia so that we would have far greater access to any industry that could support it with the components that it had actually provided.[46]

4.54 He strengthened this case for the need for self-reliance with examples of other submarines—the Brazilian and the Canadian forces—where their whole supply chain dried up. In his view:

> …if we lose that capability, the ability to sustain and upgrade the future submarine as the capability evolves becomes limited to working from a workshop manual rather than having a deep understanding of the intellectual issues that underpin the design of that capability.[47]

4.55 Rear Admiral Briggs and Commodore Roach maintained that the experiences with the Collins class submarine demonstrated that 'the required transfer of technology can only be gained through the construction of the first submarine in an Australian shipyard and that the associated risks could be successfully managed'.[48] Rear Admiral Briggs also highlighted the importance of having the 'in-depth capacity to unravel and understand a problem and do a fix; to not have to go back to someone else's capital city and find that they are busy today'.[49]

4.56 Commodore Greenfield stated that in order 'to be able to effectively modify, upgrade and enhance our submarines, our industry must be intimately involved with the design, philosophy and designer's intent, to truly understand the submarine and what can and cannot be done to it'.[50] He similarly underscored the need for Australia to ensure that it is self-reliant in sustaining its fleet of submarines. He gave a similar example of the vital need to be self-reliant:

> When companies who support our submarines are getting phone calls in the middle of the night or the middle of the day from a submarine at sea saying, 'Help, we can't diagnose the fault and it's a serious one,' they do rely on our industry. Our industry is there all the time to support our boats. Submarines of the type that we have, the big heavy submarines, probably spend about half their time in maintenance. There is no getting away from that…You also cannot get away from the fact that you will suffer some defects and you need instant access to people who understand and can diagnose and fix them. You will not get that from overseas.[51]

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46 *Committee Hansard*, 30 September 2014, p. 4.

47 *Committee Hansard*, 30 September 2014, p. 4.

48 *Submission 17*, paragraph 35.

49 *Committee Hansard*, 30 September 2014, p. 10.

50 *Submission 18*, p. 3.

51 *Committee Hansard*, 30 September 2014, p. 25.

4.57 The committee has referred to the reticence of overseas countries to make available their most advanced technology. In this regard Professor Roos stated:

> In this global environment, the only way that Australian submarines can develop and maintain a capability edge is if the submarines are built in Australia and fitted with high-end, secret technology through Australian Eyes Only programs which are continuously funded through the service life of the fleet. These technologies would be targeted towards specific areas—stealth techniques, signal processing, and commanding officer's tactical aids—anything that gives our submarines an edge. We have done this before with ultra-quiet pumps, acoustic tiles, special sonars, and so on. Failure to do this will mean Government embarrassment in the least and a tragic loss at the worst.[52]

4.58 Mr Glenn Thompson, Australian Manufacturing Workers' Union, agreed with this view. In his experience, greater problems arise when maintaining a vessel that 'you do not build'.[53] He cited the current major refit going on one of the Collins class submarines. He stated:

> The whole back end of that vessel has been dismantled. The drive chain and the piping—some 7,000 pipes—have been removed. If we had not built that vessel we would not have the skills and the capacity to perform such work. We agree with the comments that retired Rear Admiral Briggs and Commodore Roach have made with respect to that. It is better to build to ensure that you have the skills to maintain.[54]

4.59 Mr King agreed that Australia could build the submarines, but noted it was 'very much a government decision'.[55] Recently, he informed the Senate Foreign Affairs, Defence and Trade Legislation Committee that:

> …there are all sorts of matters that come into play in selecting who is going to ultimately design, build and work with us on our submarine. They go beyond price and they go beyond their assessed ability to deliver; they go on to strategic relationships, interoperability and on and on. So there are a number of factors that come into play in the process that you may go through to acquire this submarine.[56]

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52 *Submission 25*, p. 5.

53 *Committee Hansard*, 8 October 2014, p. 12.

54 *Committee Hansard*, 8 October 2014, p. 12.

55 Senate Foreign Affairs, Defence and Trade Legislation Committee, Estimates, *Committee Hansard*, 22 October 2014, p. 93.

56 Senate Foreign Affairs, Defence and Trade Legislation Committee, Estimates, *Committee Hansard*, 22 October 2014, p. 91.

4.60 The committee believes that the submarines are in a class of their own and the link between ensuring Australia's close involvement with all aspects of its acquisition and sustainment is strong.

Conclusion

4.61 The committee has already noted that investment in infrastructure may have long-term benefits for the costs in maintaining and upgrading vessels: that by constructing vessels in Australia, the economic costs of maintaining, repairing and refitting large naval vessels throughout their operational lives could be reduced.

4.62 Thus the savings generated by having the infrastructure available for the maintenance and upgrade of the Navy's fleet should be a major consideration. But the argument about through-life support also extends to the know-how and the skills base needed to sustain and upgrade the fleet.

4.63 If Australia is to maintain and modernise its naval vessels, it needs an experienced, knowledgeable and productive workforce to repair and service these vessels throughout their operational life.

4.64 A key strategic priority is the capacity to deploy independent naval strength into the oceans surrounding the continent and maintain control of the long maritime approaches and at the very least deny the control of such approaches to potential enemies.

4.65 The committee notes that there are practical constraints in achieving complete self-sufficiency in the supply and maintenance of Defence assets and the degree of control will differ according to the strategic importance attached to the asset.

4.66 But not having assured access to domestic capabilities in such a critical strategic asset as a submarine would compromise Australia's independence undermining Australia's national security.

4.67 Indeed, some witnesses made a direct and strong connection between the construction of the submarine and the development of the skills base needed for its future support. They argued that local involvement in the build would set the necessary foundation for the submarine's future through-life support.

4.68 The complexity of the submarine and its critical role in Defence's capability strengthens the link between having it built locally and its maintenance and upgrade over the length of its operational life. Indeed, a number of witnesses noted that the submarine was one of the critical Defence assets where reliance on overseas suppliers could compromise operational independence and ultimately Australia's national security.

4.69 Experts giving evidence to the committee strongly argued in favour of building the future submarines in Australia.

4.70 The only way to ensure that Australia has access to the very best technology and is assisted by capable and reliable partners who share Australia's commitment and ambitions is through a competitive tender. Anything short of this process would be folly and place the future submarine at unnecessary risk.

4.71 Given the weight of the evidence about the strategic, military, national security and economic benefits, the committee recommends that the government require the tenderers for the future submarine project to build the submarines in Australia.