

Senate Foreign Affairs, Defence and Trade References Committee

Public hearing

28 March 2006

Questions-on-notice for Department of Defence

Is there a strategic imperative for Australia to build ships in Australia?

1. Defence's submission notes the findings of the 2002 ASPI report that 'There is in fact no strong strategic reason to build the Navy's warships here in Australia'. The report goes on to state, however, that 'It is **desirable** to have a repair facility close to each naval operating base for practical reasons, and to provide strategic redundancy.' Defence broadly agreed with these findings. Submission 20 para 1.6 and 1.7.
 - Is there a strategic imperative for Australia to have a viable ship repair industry?
 - Is it possible to sever the connection between the construction of a naval vessel and the acquisition of the skills and knowledge necessary for its future maintenance, repair and upgrade? Could you provide reasons for your answer?
 - What is meant by the term desirable in the quote above?

The capacity of the Australian industrial base to construct large Naval vessels over the long term and on a sustainable basis.

2. The committee's terms of reference include the matter of the capacity of the Australian industrial base to construct large Naval vessels over the long term and on a sustainable basis.
 - What do you understand by the term 'large naval vessel'?
3. The RSL was confident that 'the Australian naval shipbuilding industry and its industrial support base have demonstrated the capacity to construct large naval vessels over the past three decades on a sustainable basis...With this track record there is no reason to believe it cannot continue to adapt. It stated further 'Given the high probability of the ongoing need to continue to replace all major Australian warships over the next half century, there is a clear opportunity to continue to grow a national industrial capacity to meet the need'. (submission 6, p. 3.)
 - Would you like to respond to this view?
4. Austal's submission notes that Australia does not currently have the capacity to build naval vessels over 10,000 tonnes. However, it argued that if a specific naval

program was to develop this 'very large' naval capability, long-term sustainability would require significant ongoing government support.

- Would you like to comment on this observation?
5. The South Australian government's submission identifies several factors that challenge the viability of the naval shipbuilding industry in Australia. They include: a plethora of builders and repairers; the absence of modern infrastructure; the high cost and availability of skilled workers; and the lack of long-term stable ship demand.
- Do you share the South Australian government's concerns? What does Defence see as the most important issues in sustaining the naval shipbuilding sector?

Difference between naval and commercial shipbuilding

6. Defence's submission notes that 'Naval shipbuilding is significantly different to civil ship construction with unique requirements and skills impacting design, production and support' (para 2.6).
- In your view is there scope for Australian commercial shipbuilders to incorporate aspects of naval shipbuilding into their business and vice versa? Could you elaborate on your answer by providing examples of why or why not these two industries complement each other?

Defence's role in supporting a viable shipbuilding industry

7. ASC (submission 17, p. 10) has told the committee that policy clarity from the government is critical: 'clear statements concerning the national government's strategic requirements for naval research, design, development, construction, modification, repair and support make a positive impact'.
- Is this possible to do, given changing governments and shifting strategic priorities?
8. Defence's submission notes that 'before committing to an acquisition, Defence must independently assure that industry has the capacity to deliver on schedule and within budget the required capability (para 1.12).
- Could you explain how Defence goes about obtaining this assurance?
9. Defence's submission states that: 'Defence continues to implement strategies aimed at assisting industry to develop a vibrant, competitive, cost effective local maritime industrial capacity' (para 1.16).
- Could you provide concrete examples of these strategies?

Export opportunities

10. What is the current export focus of Australia's naval shipbuilding industry? Would you agree that if the Australian naval shipbuilding sector is to be internationally

competitive, government will have to fund contracts that are not open to international competition?

11. What, if any, are the difficulties with selling our Australian-built ships to other navies? What are the restrictions Australia faces in selling ships using overseas technology, eg Aegis weapons systems? Would Australia require security clearances to do so?
12. Given the subsidies that are available to overseas shipyards, what are the opportunities for the export of Australian-built naval ships?
13. Gibbs and Cox state in their submission: 'It is our intent to negotiate with the Commonwealth use of our design for international marketing.'
 - In principle, does DMO have any objections to Gibbs and Cox using the AWD project for exporting opportunities?
14. The Australian Association for Maritime Affairs Inc (AAMA) wrote that 'the failure to sell the ANZAC frigate to the South East Asia region is seen as a failure of government' (submission 13, p. 2).
 - Could you comment on government initiatives to sell Australian-made ships in Asia? What are some of the difficulties faced when attempting to export Australian naval ships into this region?

The comparative economic productivity of the Australian shipbuilding industrial base and associated activity with other shipbuilding nations.

15. Austal argues that the Australian industry cannot compete in the naval market for very large naval ships. It argues that there are a large number of potential builders of these naval vessels worldwide who would be able to deliver within a similar or better cost delivery time than Australian industry. In this environment, Austal argues that Australian industry would struggle to secure export orders.
 - Would you like to comment on this?
16. Defence's submission concludes by saying: 'Constructing the ships identified in the DCP in Australia has the potential to impact adversely on the overall wealth of the nation. Given the competition for scarce, skilled resources these may be better focused on non-Defence projects (such as export orientated investments) aimed at the long term good of the nation and wealth generation rather than being employed in new ship construction'. (para 5.7)
 - This statement seems to contradict the views of a number of other submitters who argue strongly that with good planning and better management Australia does have a viable naval shipbuilding industry, especially considering the many less tangible benefits that accrue from having such an industry including the development of skills, innovation and improving export opportunities. Would you like to respond?

17. The RSL argued that: 'The contention that economic considerations should be the primary consideration when deciding whether to purchase warships constructed in the shipyards of other nations or to build them in Australia is entirely dependent upon accurate and detailed proof that one option is more economically beneficial than the other. With so many variables and intangibles involved it is virtually impossible to obtain such proof'. (submission 6).

- Would you like to comment on this statement?

18. Rear Admiral (Ret'd) W.J.Rourke submitted that the productivity of local shipbuilders is practicable and appropriate. He argued that local construction can usually compete well with US construction costs and those of Europe. He cited the Tasman Asia Pacific 'Impact of Major Defence Projects: a Case Study of the ANZAC Ship Project'. It found that the ANZAC program made substantial contributions to Australian GDP and also provided substantial savings in increased participation in through-life support. submission 1, p. 4.

- Could you provide some background to this study, (it should be noted that a number of submitters have referred to it) assess some of its findings and whether they have relevance to matters before this inquiry?

19. The Australian Industry Defence Network Inc also cited the findings of the TASMAN ASIA PACIFIC study into the ANZAC ship Project to indicate the savings that can be made by building navy ships in Australia. (submission 2, p. 2.)

- How do you reconcile the conclusions reached by Defence in its submission with the findings of the study into the ANZAC ship project?

20. The Australian Industry Group's submission noted that the ANZAC frigate project at Williamstown increased annual GDP by as much as \$500 million, increased annual consumption by over \$300 million and saw the creation of 8,000 full time equivalent jobs.

- Can you comment on what you see as the main reasons for the success of the ANZAC frigate project?

Australia's major shipbuilding companies and their long term viability

21. Defence's submission comments briefly on the four major companies engaged in Australia's naval shipbuilding industry—ADI, Austal, ASC and TENIX.

- Do you agree with the SA government that there is a need to rationalise the number of local shipbuilders in Australia?

22. The South Australian government argues that the sale of ASC and its contract to build the AWDs should be a catalyst for establishing ASC as a focal point for infrastructure investment and skills development in the shipbuilding industry.

- Do you agree that establishing a hub of shipbuilding construction activity would enable government and industry to better concentrate investment in skills and infrastructure?

23. In 2002, DMO released a paper titled 'The Australian Naval Shipbuilding and Repair Sector Strategic Plan'. It suggested that the government should assist industry to rationalise, reflecting a one purchaser-one supplier model.

- Does the government now consider market mechanisms to be a more effective way to determine the structure of the industry?
- Is there still a role for government in facilitating industry rationalisation?

24. ASC's submission (no. 17) advocated the economies of scale and learning curve benefits of buying in excess of 2-4 ships in each class.

- Do you agree with their analysis? Would it be practical for a navy the size of Australia's to benefit from these production efficiencies?

25. The Australian Academy of Technological Sciences and Engineering (ATSE – submission 19) suggested the cost of building more ships with a shorter shelf life would be offset by:

1. not requiring a mid-life fit out
 2. creating opportunities to export surplus ships
 3. selling second hand 20 year-old ships to smaller navies.
- Could you comment on these assumptions?

Concerns with building ships overseas

26. Could you explain the purpose of having an overseas 'off the shelf' option for the design of the AWD ships? How have Kinnaird principles been applied to this approach?

27. The Industry Group has expressed concern to the committee that the construction of the two new amphibious ships will be done overseas. The ships' design will be modified to meet Australian requirements and therefore the cost of construction in Australia will be larger than for overseas construction.

- Can you allay the Industry Group's concerns that Australian industry will not be penalised for tendering. Do you agree with the AiG that any perceived cost acquisition benefit by procuring offshore will be outweighed by a whole-of-life cost advantage by choosing to build locally?

28. According to Defence the replacement for HMAS WESTRALIA which was sourced overseas in 2004 and to be commissioned as HMAS SIRIUS, 'was purchased at a fraction of the cost of construction of a similar vessel in Australia. Modifications to convert the ship to its military role are being conducted in Australia. This project will deliver a cost effective and capable replenishment ship to the RAN. The taxpayers probably saved over \$50m and this strategy allowed the delivery of a replacement for HMAS WESTRALIA approximately 4 years ahead of an in country build option' (para 4.6).

- Can you envisage any disadvantages in purchasing this ship from overseas?
29. The RSL has a different perspective. It submitted 'By opting to purchase several second hand support vessels offshore thereby denying Australian shipyards the opportunity of tendering to supply these vessels, the Australian government reduced the capacity of the Australian industrial base. It cited the case of HMAS Westralia which was purchased from Britain—'When this vessel had to be deployed to the Persian Gulf during the 1991 Gulf War it could not meet the 'one stop shop' need of the warships it was supporting. This operational shortcoming has been perpetuated by the second stop-gap measure of acquiring the foreign built tanker Delos to replace HMAS Westralia. Even after conversion in an Australian shipyard it will not have the 'one stop shop' AOR capability when it enters service as HMAS Sirius. The support ship will be unable to replenish ammunition and will lack some of the other features normally built in to an AOR.' (submission 6, p. 3.)
- Would you like to comment?

Defence promoting innovation and competition

30. Noting its position in the market as a monopsonist, Defence stated that it 'remains vitally interested in ensuring that competition within the industry promotes innovation, efficiency and value for money in shipbuilding that flows through to the lifecycle sustainment of maritime capability.' (submission 20, p. 2.)
- How does Defence go about ensuring that it does promote innovation, efficiency and value for money?
 - Does Defence have the level of skills within the organisation to be a catalyst or leader for innovation and efficiency?

Peaks and troughs

31. Most submissions to this inquiry have stated that a viable naval shipbuilding industry requires smooth consistent demand. What are the practical or strategic issues that make this difficult to achieve?
32. Is there a reasonable case for direct government support to be provided to industry during periods of low or non-existent demand to ensure the retention of industry skills and infrastructure?
33. ATSE (submission 19, pp. 2-3) has suggested that it would be helpful if 'ship-procurement programs could be adjusted to ensure the timing of the order for the first in any class of ships allowed a sufficient interval before the rest were required, to allow full validation of design, construction and operating features, so avoiding costly later modifications'.
- Is this practicable?
 - What might be some difficulties with this approach?

34. The South Australian government's submission expressed concern that after the construction of the AWD and amphibious ships, 'there will be insufficient ship demand to sustain the industry'.

- Do you agree with this view? Is Defence concerned that the local industry could suffer if there are not major shipbuilding projects after the AWDs and amphibious ships?
- Do you think it would have been preferable not to build the AWDs and Amphibious ships at the same time?

35. Figures on pp. 12–22 of Defence's submission trace the projected Defence expenditure by project from 2005–2025 and workforce requirements. A number of submissions have referred to the problems created by the peaks and troughs in demand.

- Could you take the committee through the graphs and members can ask questions as you proceed through the information?

36. Could you indicate where on figure 9 demand for extra skills associated with any upcoming mid life refits occurs? What is the extent of demand spikes for these refits/upgrades?

37. When is government intending to articulate its future naval ship demand beyond the current two major projects?

- After the completion of the AWD and Amphibious ship projects, could you indicate what you think the pattern of demand for naval shipbuilding services will look like?

38. Your submission (p. 23) indicates the possible benefits to availability of skilled labour of smoothing demand by building the Amphibious ships (LHDs) overseas.

- Will the impact of 'ramping up and ramping down' (p. 23) workforce requirements be taken into account during the upcoming tendering process?

39. Do you agree with ASC's submission (p. 24) that their proposed demand management would represent 'not net cost' to the public?

- Have you undertaken your own analysis on this?

40. In its submission, Defence stated that it 'must independently assure that industry has the capacity to deliver on time and to budget the required capability and accordingly must seek objective evidence that potential industry suppliers are able to deliver on time, on budget and at the required performance levels' (para 4.4).

- Does Defence itself have the trained and skilled personnel needed to accurately assess the capability of others to meet budget, time and performance requirements?

Australian involvement in naval shipbuilding

41. Defence's submission provided the following table' (para 5.2).which provides estimated Australian Industry Involvement in each of the project phases based upon historical information.

Project Element	Combatant Ship Build	Support Ship Build	Weapons Upgrades
Platform Design	2%	2%	2%
Hull, Machinery and Equipment	18%	15%	8%
Logistics support including Training	9%	14%	14%
Combat Systems	7%	5%	5-30%
Project Management	9%	10%	10%
Total	45%	46%	39-64%

TABLE 4.1: AUSTRALIAN INDUSTRY INVOLVEMENT

42. An important aspect would be whether this involvement covered the important skills and knowledge critical to the maintenance, repair and upgrade of vessels.

- What percentage of those critical skills are reflected in the table?

43. Earlier in Defence's submission, it observed that 'Critical to the ability to provide maintenance, repair, refitting and capability upgrade services is a shipbuilder's access to deep design expertise and a sound understanding of the source and history behind the design (para 1.19).

- What representation of 'access to design' is contained in the above figures?

SMEs

44. Defence's submission accepts that 'during any warship construction project a significant part of the work is undertaken by many second and third level suppliers and subcontractors. It states that 'These companies are a very important component of the nation's maritime capability. They can represent 70% by value of a project'.

- In its tendering and contracting for naval shipbuilding projects, does Defence require a certain level of local industry involvement?

The comparative economic costs of maintaining, repairing and refitting large naval vessels throughout their useful lives when constructed in Australia vice overseas

Through life support

45. Defence's submission states that 'It is estimated that the through life support costs of a typical warship will require approximately three times the initial acquisition costs'. (para 5.6)

- Generally, what is the acquisition timeframe compared to the through-life timeframe?

46. ASC's submission (p. 22) claims that after 29 years a ship refitted mid-life has only a 65% capability.

- Do you agree with their analysis?
- What does a 65% capability mean in operational terms?
- Has Defence considered abandoning mid-life refits?

47. Defence's submission states that ' The Defence Materiel Organisation is conscious that repair and refit arrangements for major ships have a short-term focus that is detrimental to developing and sustaining a viable industry support base and is inefficient in delivering effective support outcomes'. (submission 20, para 1.23.)

- Could you by way of a concrete example explain what is meant by 'short-term focus', and whether more effective planning would address this problem?

48. Defence's submission goes on to state that 'Defence's short-term focus has encouraged industry to focus on winning the next contract rather than delivering on outcomes'. (submission 20, para 1.23.)

- Could you elaborate on this statement?

49. Defence's submission notes that new arrangements are being implemented for the support of major surface ships. It states that 'Rather than contracting each ship repair activity separately a number of repair availabilities will be batched together. This will provide better continuity and skill development in industry, reduced logistics cost of ownership, improved system effectiveness, increased ship availability and reliability, improved industry relationships and ultimately, enhanced maritime capability.' (submission 20, para 1.24.)

50. Could you explain this process in more detail? What do you mean by 'batched together'?

The broader economic development and associated benefits accrued from undertaking the construction of large naval vessels.

51. The committee's terms of reference included the broader economic development and associated benefits accrued from undertaking the construction of large naval vessels

- In your experience, what are the benefits that accrue from undertaking the construction of large naval vessels?

52. A number of submitters provided a long list of what they considered significant benefits that accrue from the construction of naval vessels in Australia. They included technology transfer, development of valuable new skills, manufacturing techniques and processes, improved potential for exporting, creation of capability to support vessels throughout their operational lives, shorter turn around for repairs with in-service support. See attachment 1.

- Would you agree that such benefits do accrue and, if so, have you any others that you could add?
- How does Defence take account of these less tangible gains to the Australian economy in the tendering process and final decision making?

Project Management and skill level in the forces and the shipbuilding industry more generally

53. In its submission to the inquiry, Gibbs and Cox noted that an issue they are currently assessing is the availability of experienced naval ship engineers and designers with security clearances.

- Are you concerned that Gibbs and Cox may struggle to find qualified workers with Commonwealth security clearances?
- Do you have any objections to Gibbs and Cox using reach back to its parent company to staff their needs?
- Can you tell me what involvement DMO has in ensuring an efficient system of Commonwealth security clearances?

54. Defence's submission referred to the Government's Skilling Australia's Defence Industry (SADI) program.

- Could you provide the committee with a progress report on this program and the concrete benefits that have come out of this initiative?
- How effective has the Government's Skilling Australia's Defence Industry in addressing the domestic skills and knowledge gap?

55. Austal commented in its submission that the construction of 10,000 tonne plus naval vessels may have negative effects on the existing shipbuilding industry through the pressure that such activities would have on the existing skilled workforce.

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- Would you like to comment on this? To what extent do skills and training issues feature in DMO's thinking on naval shipbuilding?
56. The Australian Industry Group commented in its submission that it has been working with the DMO on the federal government's "Skilling Australia" initiative.
- Can you comment on the types of practical measures that DMO wants to see come out of this initiative?
57. The South Australian government's submission recommends a national skilling and shipbuilding infrastructure plan.
- In principle, would you support such a plan?
58. Rear Admiral (Ret'd) W.J.Rourke suggested that project managers should be selected on merit and have minimum tenures—usually of five years.
- What is the current practice within Defence for appointing project managers?
 - How do you respond to Rear Admiral Rourke's views?
59. Rear Admiral (Ret'd) W.J.Rourke stated that the Navy has an increasing need to increase its capabilities in regard to technological and engineering development. He suggested that its numbers of engineering officers are low, and it only trains a small proportion of its officers cadets in engineering or technology courses.
- In light of Rear Admiral's Rourke's concerns, could you inform the committee about the Navy's capabilities with regard to technological and engineering development?
60. The Submarine Institute of Australia Inc was of the view that 'The ADF as an 'informed customer' has a significant role in maintaining an ongoing, viable and competitive defence industry capability (submission 3, p. 19).
- In your view, does Defence have the in-house level of technological and engineering knowledge and experience to be 'an informed customer'?
61. What measures are in place to ensure the ongoing meeting of costs and schedule, in light of ADI's performance?
62. With the current knowledge shortage, can the Australian industry meet the post-Defence Capability requirements for advanced platforms?

Attachment 1 (see question 52)

The Australian Industry Defence Network Inc listed a number of benefits that derived from the decision to construct major shipbuilding projects in Australia:

- Gross Domestic Product increases;
- Internal consumption increases;
- Employment in areas of high unemployment;
- Improved balance of payments;
- Reductions in the trade deficit;
- Technology transfers;
- Improved potential for companies exporting;
- Cost savings for Defence in terms of outlay for in-service support; and
- Shorter turn around for repairs with in-service support. submission 2, p. 3.

By way of illustration using the submarine construction program, the Submarine Institute of Australia Inc also provided examples of the significant benefits accruing from having a shipbuilding industry:

- New industrial environment and progressive industrial relations practices;
- Contribution of indigenous R&D, design, production and trials capabilities;
- Extensive technology transfer across a broad spectrum of activities;
- Contribution of Australian expertise (combat systems, software, steel, welding, towed arrays, pumps and other products);
- Development of valuable new skills, manufacturing techniques and processes;
- Implementation of strict quality standards and requirements;
- Increased manufacturing productivity and enhanced Australian manufacturing competitiveness;
- Creation of capability to support vessels throughout their operational lives ('Whole of Life Management') at minimum cost and investment;
- Engendering a belief in Australia's own capabilities and confidence in its own ability to exploit opportunities;
- Creation of export opportunities;
- Extensive job creation;

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- Establishment of new infrastructure including the construction facility in South Australia;
 - Creation of new advanced financial management systems, contract administration systems and processes, management information systems and engineering and data management capabilities;
 - Creation of new operational support facilities (executive government, specialised ranges, training, logistic support and safety programs);
 - Realisation of greater 'self-reliance through industrial capability';
 - Successful implementation of the Australian Industry Involvement (AII) program that exceeded the contractual requirement (70% and 45% by value of the contract price for the platform and combat system elements);
 - Australian industry as the principal beneficiary of more than \$3B was spent in Australia with over 100 Australian companies involved;
 - Australian industry involvement included project management, submarine construction, manufacture and test of submarine systems, and development of test support facilities;
 - Some 80% of project funds directed to major Australian subcontractors and other suppliers (i.e., competitively bid at supplier level). Modular construction techniques ensured work was distributed around Australia;
 - Exposure of gaps in technology capability, prompting development of Australian scientific and industry expertise to fill these needs, executive government acoustic stealth technology. submission 3, p. 11.

In brief the Submarine Institute of Australia Inc submitted that 'the Collins program (coupled with the ANZAC ship program) generated a viable and efficient naval shipbuilding industry and significantly enhanced the capability and credibility of Australian defence industry in both the domestic and international market place. While the submarine project did encounter difficulties, such difficulties were not unexpected for a high risk program of this scale and complexity. Indeed, the ability to successfully address and resolve such difficulties is regarded as an important attribute for the industry'. submission 3, p. 11

The RSL similarly detailed the broader economic benefits derived from the construction of large naval vessels. They included:

- Engine manufacturers, steel makers, transportation companies, weapons producers, electronic and electrical firms are among the plethora of industrial activities which gain economic benefit from these complex and expensive national projects. In so doing these companies are provided with the impetus not only to grow but also to look for markets for their products in other countries. The long term beneficial economic flow on effects from naval

shipbuilding projects such as that for the Collins Class submarine are substantial; submission 6, p. 5.

- significant employment benefits to be gained in Australia by letting tenders to Australian shipbuilders to build Australian warships...An ongoing regular process of building warships to replace those reaching end of life thus seems reasonable. Were this to be the case, long term employment benefits would be assured; submission 6, p. 5.
- Advances in technology continue to revolutionise the work place and in no arena is this more apparent than in the development of defence force platforms, weapons and sensors. These advances bring with them economic gains. Australian developments such as the Nulka System for ship protection from missiles along with technology transferred from allied countries assist in this process; submission 6, p. 5
- The management and logistic aspects of building, operating, maintaining and repairing warships are a crucial part of their effectiveness. The use of world's best practice in arranging for these matters brings with it flow on effects for the broader Australian economy as well as maximising the cost effectiveness of the Australian fleet; submission 6, p. 5.
- “Local construction of ships has facilitated ‘Australianisation’ of the vessels, such that much of the ship fitted plant and equipment is sourced in Australia and tailored to meet specific Australian standards. This results in equipment that is optimal for Australian conditions and requirements and equipment that can be supported locally. It is therefore capable of local evolution as technology advances, threats change and capabilities improve and mature. Australian naval shipbuilders have expertise in systems adaptation, design refinement and systems integration. Systems integration, in particular, has encouraged shipbuilders to enter into the strategically important areas of data management, signal processing, command, control and communications.” submission 6, p. 6.