Submission 43 - Australian Business Defence Industry

The Australian Business Defence Industry made submission 2 to the inquiry into the Future of Australia's naval shipbuilding industry in the 44th Parliament.

This document is intended as a supplementary submission to the original submission 2.

All submissions received in the 44th Parliament can be accessed via the following link:
http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Economics/Naval_shipbuilding/Submissions

01 March 2017

AUSTRALIAN BUSINESS DEFENCE INDUSTRY

SUBMISSION TO THE SENATE ECONOMICS REFERENCES COMMITTEE INQUIRY INTO THE FUTURE OF AUSTRALIA'S SHIPBUILDING INDUSTRY

PREAMBLE

Australia is on the cusp of introducing a continuous naval shipbuilding activity. Such a development should have significant benefit for Australian companies in both the supply chains of the shipbuilding companies, and in associated innovation concerning the capabilities of the platforms under construction. Experience with the build of the Anzac ships has shown that in-Australia naval shipbuilding can make a substantial contribution to Gross Domestic Product (GDP), generate additional consumption within Australia, and support a significant number of full-time equivalent jobs[1].

The naval shipbuilding activity has four components, outside the physical construction of the vessels, in which Australian industry could potentially participate, namely:

1. Involvement in the provision of the infrastructure required for build activities,
2. Supply of equipment/systems associated with the build of the vessels,
3. Provision of services to the shipbuilder, and
4. Provision of sustainment activities following acceptance of the vessels by the Royal Australian Navy.

The problem facing the current move towards a continuous shipbuilding naval program is that the possible benefits from the in-country build will be largely negated by the adherence to build commencement dates that have been brought forward from the originally-planned dates. Indeed, the currently-declared start dates for the Offshore Patrol Vessel (SEA 1180) in 2018, and the Future Frigate (SEA 5000) in 2020 are likely to see an entrenchment of offshore supply chains rather than the development of Australian alternatives, and a reduction in associated maritime-related research and development. Adherence to these dates may therefore result in reduced Australian sovereignty rather than the hoped-for increase.

SEA 1180 has three companies currently engaged in tender preparation with the successful company to be announced later this year. That will give the winner 12+ months in which to get to the point where they can "cut steel" and commence the build – initially in Adelaide and then from hull #3 onwards in Western Australia. The timeframe means that no design changes will be possible to the "as-is" design, and therefore no changes to the existing European supply chain. That is, no substantial involvement of Australian industry until the build moves to Western Australia at the earliest.

SEA 5000 has three companies currently engaged in a Competitive Evaluation Process (CEP), and then presumably a tender leading to a contract award in 2018 and commencement of the build in 2020. A small number of design changes have been flagged for the Future Frigate (CEAFAR and some

[1] Denise Ironfield. (2000). Impact of Major Defence Projects: A Case Study of the ANZAC Ship Project. Tasman Asia Pacific, Canberra.

US weapon systems), but the time available will restrict these design changes to the bare minimum. That is, the Future Frigate will also essentially be an “as-is” solution, with no significant involvement from Australian industry. In order to avoid a small number of orphans in the RAN Fleet, and associated increases in the logistics overhead, the “as-is” ships could be expected to extend to the first three or four. The SEA 5000 supply chain for the best part of the next decade will therefore comprise the existing suppliers, perhaps to be incrementally replaced and augmented with Australian alternatives from around 2030 onwards.

Herein lies the problem – and more pronounced for SEA 5000 given the much higher value of the program, the complexity of the ships, and the longevity of the overall activity. In the event that the first three SEA 5000 are delivered essentially “as-is”, the likelihood of any significant involvement of Australian industry for at least the period until 2030, a third of the initial build of nine frigates, is low. The number of firms, and the capability of Australian defence industry, remaining after that time is problematic. There are already indications that some foreign-owned firms, long established in Australia, are considering their future in the local market.

There would seem to be three options to overcome this situation for SEA 5000, namely:

1. Delay the commencement of build dates to allow for design changes, and the incorporation of a local supply chain.
2. Advance the tendering and down-select process, and provide tenderers with allowable weight, space, power and interface requirements to allow potential system suppliers to work up solutions in parallel with the selection process. This option has, however, a number of disadvantages, including:
    a. The final costs may not be known until after the choice of designer, and
    b. Whilst this approach may increase the potential for major systems providers to participate, the potential to develop an Australian supply chain for components will be largely unaffected.

Given the timeframe imposed for SEA 1180, the only option to develop a local supply chain in the short term will be to take a break prior to the commencement of build activities in Western Australia, and mandate a level of local content to be achieved. This approach will bring higher costs.

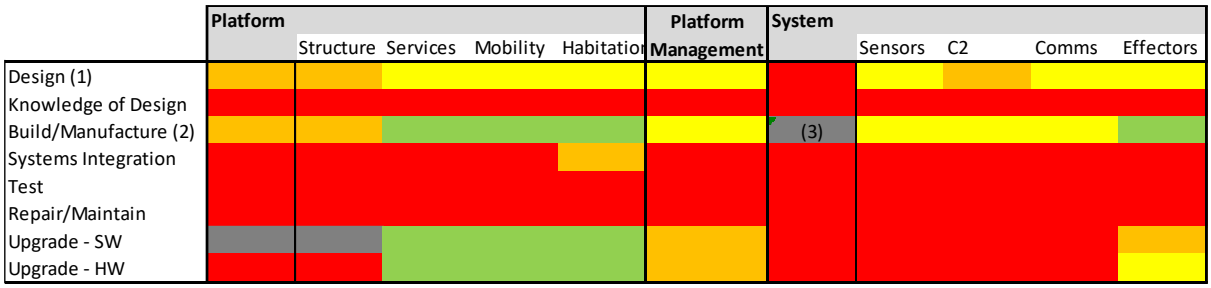
DEVELOPMENT OF CONTRACTS RELATING TO NAVAL SHIP AND SUBMARINE BUILDING

The contract placed for both naval ships and submarines should be with the shipbuilder rather than with the designer, as the shipbuilder will be ultimately responsible for the quality of the delivered product. The shipbuilder will supply the yard infrastructure, and, in the case of ASC, will need to simultaneously build multiple designs within the same geographic area. Competition between the various builds for limited shipyard resources may therefore develop and the builder will be the only authority in a position to sensibly prioritise and manage internal conflicts. The designer will not be in a position to manage and control the workforce, and hence will be unable to properly manage project risks and to warrant quality.

DESIGN, MANAGEMENT AND IMPLEMENTATION OF NAVAL SHIPBUILDING AND SUBMARINE DEFENCE PROCUREMENT PROJECTS IN AUSTRALIA

The hull and associated machinery for a ship or submarine is merely a shell for keeping the warfighting aspects, the combat system and associated weapons, out of the water and moving them from place to place. Significant effort has been expended to gain some measure of Australian control over the hull aspects of the various programs, but not over those components upon which the capability is based. Australia needs to ensure that it has the ability to augment, modify and develop the combat system to address technological change, challenges that may arise due to developments in the operating environment, and for other future Australian requirements that may not attract the same priority for the system supplier. With the obvious exception of the aspects of submarine stealth associated with hull form and radiated noise, claims of sovereignty will be spurious if the ability to modify the combat system is not available.

In the ABDI submission to the Senate Economic References Committee Inquiry into the future of Australia's shipbuilding industry dated 25 November 2014, two diagrams were included to illustrate those activities and sub-systems associated with the building and maintenance of naval ships where strategic risks are high, and thus there is a consequent requirement for a related industrial capability in Australia to address these risks. These diagrams are reproduced below as the underlying logic has not changed[2].



(1) To be involved in the design process
(2) To be involved in the build of the overall system, or of the sub-system components
(3) At the system level this is an integration task, not a build task

Figure 1 – Depiction of Strategic Risk associated with Shipbuilding

Figure 1 shows that the highest strategic risk is associated with having knowledge of the design, the ability to undertake systems integration, test, repair and maintenance, and the ability to upgrade operational systems to account for movements in technology, operational posture, and/or the threat environment. This is not a surprising result. In general therefore, there are higher strategic risks associated with the Operational System rather than the Platform *per se*. Accordingly, the implications with respect to operational sovereignty are higher for the operational system than for the platform.

[2] The colour code depicts the impact of the overall Platform, Operational System and Platform Management System, and the Sub-Systems on the mitigation of strategic risk - in the order green (low risk), yellow (medium-low), orange (medium-high) and red (high).

Application of the same matrix structure as above for submarines provides the risk diagram as shown below at Figure 2. Differences to the surface ship example are apparent due to the potential impact of sub-systems upon overall platform stealth characteristics.

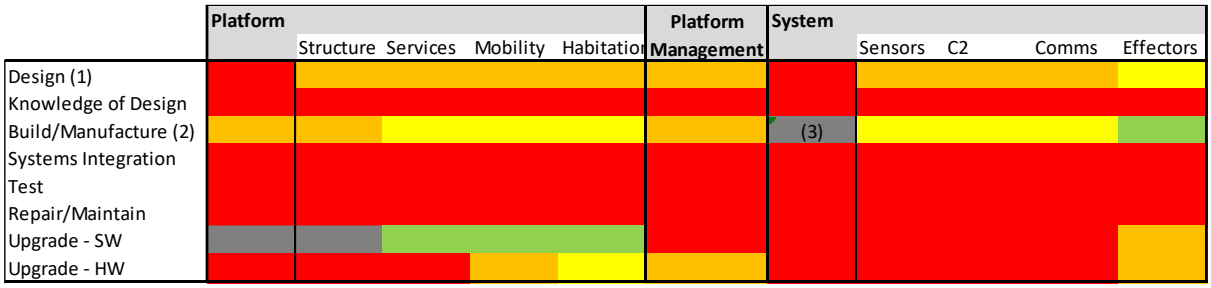


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Figure 2 – Depiction of Strategic Risk associated with Submarine building

INTEGRATION OF OFFSHORE DESIGN WORK AND SUPPLY CHAINS IN AUSTRALIA

Figures 1 and 2 above show that access to the detailed design information, and the ability to make local changes to address local technological or threat challenges, is associated with the highest strategic risk. The impact of the availability of design information is more acute for the combat system than for the platform. The Department of Defence needs to ensure that access to all intellectual property for the submarines, frigates and OPVs is available in Australia.

OPPORTUNITIES FOR FLOW ON BENEFITS TO LOCAL JOBS AND THE ECONOMY

Apart from jobs directly associated with construction, and tests and trials, the opportunities for the wider flow-on of benefits to local jobs and the economy are unlikely to be realised by commencing the builds at dates as currently mandated for SEA 1180 and SEA 5000.

The opportunities associated with the design and build of the Future Submarines should be significantly higher than for the surface ships as a substantial proportion of the submarine design will be new, and hence there will be no existing supply chain to contend with.

ANY RELATED MATTERS

The implementation of continuous shipbuilding and the commitment to a build of 12 indigenous submarines could conceivably reignite the debate concerning the potential sale of ASC. In the event that Government were to made such considerations, the ramifications of such a move need to be carefully considered as ASC is an important sovereign capability in a landscape dominated by foreign-owned interests. Accordingly, ASC should remain in Australian control. Should the Government wish to divest itself of ASC, the sale should be subject to restrictions such as those within the QANTAS Sale Act to ensure that Australian interests remain in the majority for this important sovereign capability.