

Submission to:

Senate Foreign Affairs, Defence and Trade Legislation Committee

Inquiry into

Defence Amendment (Sovereign Naval Shipbuilding) Bill 2018

PREAMBLE

ASC Pty Ltd (ASC) welcomes the opportunity to make a submission to this inquiry. This submission is from the perspective of ASC's submarine business. It does not address sovereignty in the context of ASC's shipbuilding business unit (which will shortly become a subsidiary of BAE Systems for the duration of the Hunter Class Frigate build, as per the Australian Government's SEA 5000 decision in June).

As Australia's sovereign submarine capability, ASC is supportive of the industrial sovereignty critical to achieving national security. Sovereign industrial capabilities, as embodied by the Australian Submarine Enterprise, provide the nation with the ability to construct, maintain and sustain critical defence assets without being overly reliant on overseas nations or suppliers. Strong industrial sovereignty can also lead to export opportunities, thereby underpinning our nation's capabilities. ASC is not privy to all the planning considerations of the implementation of the Naval Shipbuilding Plan, as the Government develops Australia's sovereign industrial capabilities.

ASC therefore believes acceptance, or otherwise, of the Bill is the province of Government policy-making.

Australian history, and the history of ASC, shows that local companies can play central roles in key defence procurement programs, for example the Collins Class submarines, ANZAC Class frigates and the Air Warfare Destroyer programs. Consequently, ASC will continue to play a constructive "best of nation" role within the growing Australian submarine sector in support of the Government's objective of achieving a strong, sovereign submarine capability for the Royal Australian Navy.

INTRODUCTION

Australia is a continent and an island that is geographically remote from our major trading partners and allies. Its remoteness and dependence on international trade increases its susceptibility to embargos and blockades and underscores the need for self-reliance.

Securing our long trade routes and defending the nation is a fundamental sovereign responsibility of the Australian Government. Well-resourced defence forces, underpinned by a sovereign industrial base, are essential enablers of meeting this responsibility.

Australia is also expected to add value to its alliances by contributing meaningfully to strategic relationships and multinational operations. Our value-add lies in operating a competent and scalable level of self-reliance in Australia's defence forces, supporting infrastructure, industrial capacities and in possessing the freedom to control critical intellectual property. Australia can make truly valuable, long term contributions to its security and its alliances in domains where there is a strategic imperative, or sufficient scale to support a parent nation military capacity, such as submarines.

ASC SUBMARINES

The history of ASC is one of establishing and strengthening an Australian sovereign submarine industry for the first time. ASC was the prime contractor for the design, construction and delivery of the Royal Australian Navy's (RAN) fleet of large, long range conventionally powered submarines – the Collins Class. Since the final Collins submarine was delivered in 2003, ASC has been the sovereign sustainer of the fleet, today sourcing more than 90 per cent of platform supplies from Australian sources, up from approximately 70 per cent during the build.

As acknowledged by Assistant Defence Minister, the Hon David Fawcett, at the Submarine Institute of Australia conference in November 2018, successfully establishing and sustaining the Collins Class submarine capability is a major industrial achievement about which all Australians can feel rightly proud.

ASC constructed the submarines in a facility it built on reclaimed land on the western bank of the Port River, Osborne, in the late 1980s, using personnel not previously experienced in building submarines. The first-of-class, *Collins*, was laid down in 1990 and launched in 1994, and the last of the fleet, *Rankin*, was delivered in 2003.

Following the delivery of HMAS *Collins*, ASC was appointed prime contractor for through-life support of the Collins fleet, working together with the then-Defence Materiel Organisation (DMO) and the Royal Australian Navy. This involves the ongoing repair, maintenance and upgrade of the submarines.

ASC has since developed more than 20 years' experience and knowledge supporting the fleet in the Australian operating environment. ASC-seconded personnel also provide technical expertise to the Commonwealth's SEA 1000 project office in support of the Future Submarine project.

Today, ASC is the largest submarine engineering organisation in Australia. It employs more than 1,100 personnel that include a multidiscipline production organisation and over 250 experienced submarine engineers, technicians and para-professionals. ASC is the platform system integrator for sustainment and maintenance and as part of that role is the Design Authority, responsible for certifying necessary changes and repairs to the platform while conducting maintenance and upgrades.

ASC also manages the supply chain for Collins Class Submarine sustainment activities. The supply chain value stream comprises more than 2,600 suppliers across Australia. In this role, as noted above, ASC has lifted Australian industry contribution from approximately 70 per cent during the construction phase to over 90 per cent in the current platform sustainment phase (this does not include combat system activity).

Since transitioning to submarine sustainment, ASC has strengthened the industrial sovereignty that supports the Collins Class capability.

COLLINS CLASS - ACHIEVING ONGOING INDUSTRIAL SOVEREIGNTY

First tier nations have long-valued a submarine capability and will likely continue to do so for decades to come.

Australia has achieved sovereignty in building and sustaining its submarines, making the capability highly resilient. The Australian Government and Australian Defence Force intends building upon this historic achievement with higher levels of Collins Class submarine 'deployability' in coming years, as well as ensuring the sovereign build and sustainment of 12 Future Submarines, to enter service from the mid-2030s.

To support the long term vision for expanding Australia's capabilities in submarines, ASC is developing its capabilities in Asset Management practices, establishing plans that span two or three generations of each major asset class.

A sovereign defence capability is the freedom to use military capabilities when needed, and a sovereign defence industry provides the ability to construct, improve and maintain the military assets when necessary, especially during times of conflict.

The Australian Government has delivered a policy, the Defence Industry Capability Plan (2018), that commits to achieving certain sovereign defence capabilities as well as the sovereign industries required. This includes the maintenance and upgrade of the Collins Class submarine fleet, as one of ten Sovereign Industrial Capability Priorities.

The Plan says these priorities are "industrial capabilities considered critical to Defence and for which Australia must have access to, or control over, the skills, technology, intellectual property, financial resources and infrastructure that underpin those capabilities".

The Submarine Enterprise, including ASC, is the key body responsible for delivering the sovereign industrial capability required for Collins Class maintenance and upgrade. It is likely that some, or all, of the Collins Class submarines will need to be upgraded and life-extended into the 2040s to ensure regional superiority and the avoidance of a capability gap ahead of the introduction of the Future Submarines.

However, as the Future Submarine program gathers momentum, the Submarine Enterprise's ability to deliver the Collins Class capability will be tested by higher demands for key human resources such as senior submarine platform engineers and designers.

At present the Commonwealth's partner for the Future Submarine program, Naval Group, is not part of the Australian Submarine Enterprise.

The Enterprise was formed following the 2012 Coles Review and exists to manage the activity and clarify the responsibilities of each member so that Australia achieves a sovereign submarine capability. While Naval Group remains separate from the Submarine Enterprise, its growth and impact on the sector poses a serious risk to a key Sovereign Industrial Capability Priority of the Government – the Collins Class.

ASC believes this risk to the Collins Class would be substantially mitigated by taking a wider, enterprise approach, to Australia's two-program submarine sector. Within this framework, innovative approaches to managing demand for key human resources, taking a best-for-nation approach across both programs, would best ensure that risks to the Collins capability are fully mitigated. The informal motto of the Submarine Enterprise is "we only win if we all win". Adopting this approach across both submarine programs would ensure, in coming decades, one program's success does not come at the expense of the other's failure.

Further developing the Australian Submarine Enterprise along Asset Management guidelines will also lead to improved sovereign control over this strategic capability (see following section).

LEVEL OF SOVEREIGNTY AND ASSET MANAGEMENT

More than two thirds of the whole-of-life cost of ownership is in the operation and sustainment phase.

The Asset Management approach to platform sustainment is considered best practice by the Department of Defence and offers a holistic approach to controlling sustainment costs. ASC is Australia's first defence company to achieve the international standard for Asset Management (ISO 55001) of a military platform, for the sustainment of Collins Class submarines.

Asset Management for strategic military assets, such as submarines, is an systemic and comprehensive way of maximising the sovereignty required to deploy and support them without undue reliance on other nations. However, the costs and ultimate level of sovereignty that is achievable are largely dictated by decisions made in the acquisition phase. Since the selection of materials, and therefore the supply chain, is largely determined in the design phase, the level of sovereignty (and sovereign maintainability) that is achievable is strongly influenced by decisions made by the design team.

For Australia's submarine capability in particular, asset management plans must also deal with the long-term solutions to the mixing of key technologies from allies, which are often sourced from different countries with significant Intellectual Property (IP) and security access constraints. These include stealth technologies, combat systems, weapons systems, sensors and interoperability considerations with our allies.

The Government's objective of achieving sovereign defence capabilities, and the sovereign industrial capabilities that deliver them, is best delivered through a strategic Asset Management approach.

OBERON CLASS - AUSTRALIAN SUBMARINES UNDERMINED BY LACK OF INDUSTRIAL SOVEREIGNTY

In the 1960s the Australian Government re-established a Royal Australian Navy submarine force with the purchase of the Oberon Class submarines. The Oberons were designed and built in the United Kingdom and, as a result, Australia was heavily reliant on the UK for design support and spare parts throughout the service life of the boats.

The Navy selected Australia's Cockatoo Island Dockyard (Codock) to be the maintainer of new fleet and it invested in infrastructure upgrades at the dockyard ahead of the arrival of the first submarine. However, the Navy and Codock were hamstrung by an off-shore supply chain and design support from the UK, support which declined over time.

During the later years of the Oberon Class the UK decommissioned its own Oberons and associated support. At the same time, Australia's Navy and Codock embarked on a range of capability upgrade projects and, out of necessity, took responsibility for design management, sourcing of materials and platform integration activities.

These activities grew Australia's experience as a submarine capability owner and, to a degree, marked the beginnings of Australia as a parent navy to submarines.

However, without Codock's involvement in the submarine replacement project in the 1980s and 1990s (the Collins Class program), few learnings were transferred into the design of the Collins Class. Lessons learnt in logistics and sparing strategies remained with Codock and, as a result, significant ongoing issues such as the corrosion and marine fouling experienced by the Oberons remained concerns for the Collins' into its service life. This occurred partly because foreign Intellectual Property in relation to Oberon Class submarines was not owned by the Commonwealth and so was not sharable.

Material availability is a significant driver of submarine availability. Materials and spares are a significant component of submarine maintenance and can comprise at least half of the total cost of maintenance. The majority of the spares and materials for Oberon Class maintenance had to be ordered mostly from the Original Equipment Manufacturers (OEMs) in Europe, often via the UK Ministry of Defence. If the spares weren't available, due to delays in supply, or declining support, they either had to be manufactured completely or repaired, or old parts had to be re-used in Australia.

Australia had no control over much of the supply chain and, due to the United Kingdom's involvement in the Falklands War, Australia's access to materials became a significant problem. These factors stemmed from Australia's lack of sovereign control over the program and it led to delays, higher costs and a depleted submarine capability for the nation.

It should be noted that the last two refits conducted on Oberon submarines cost more, in present day terms, than current refits on Collins submarines, even though the Collins Class submarines are one third larger and many times more complex than their predecessors.

COLLINS CLASS – A SUCCESSFUL SOVEREIGN INDUSTRIAL CAPABILITY

The Collins Class submarines were designed to be, and remain, the world's leading stealthy long range conventional submarines, able to transit long distances whilst remaining submerged. The program was also conceived and executed as a sovereign submarine capability backed by sovereign industrial support. These ambitious objectives have been largely achieved, along with many lessons learnt from overcoming significant challenges encountered along the way.

As noted above, Assistant Defence Minister the Hon David Fawcett said at the Submarine Institute of Australia conference on November 7, 2018: all Australians should be better informed and proud of the national achievement of the Collins Class capability.

The in-country technical support and industrial base established by ASC and its partners in the Submarine Enterprise has become the foundation for the now high level of sovereign submarine industrial capability. This industrial capability supports all significant aspects of the sustainment phase, contributing to a high level of submarine availability and a more secure Australia. The Collins Class program was removed from Defence's Project's of Concern list in October 2017 and is performing at better-than-international-benchmark submarine availability.

ASC is the Australian owned and controlled industrial lead for the nation's sovereign submarine industrial capability. It has extensive access to foreign Intellectual Property, which it handles according to established security protocols and accountabilities. At its core, ASC's capability includes:

- a submarine design and engineering capability that is the Design Authority for the Collins Class Submarines and, together with a Technical Support Network of subject matter experts, delivers in-country submarine engineering and design;
- a supply chain and materials management system that contracts over 90 per cent of the value of shipyard material supply locally (from Australian-based suppliers);
- innovates through Australian-led research and implementation of superior methods, systems and materials that reduce costs and increase capability outcomes for the submarine force; and
- on-going workforce development – through apprenticeships, Masters level university instruction, undergraduate scholarships and high-school STEM programs.

Increased sovereignty in the program has led to reductions in the time submarines spend in maintenance and improved fleet availability. Specifically, this involved ASC's engineering know-how and supply organisations dedicated to improvements in design, along with more efficient production and supply chain activities, and the construction of optimised and newly developed maintenance infrastructure.

Further technological innovations and ways of working promise to further improve ASC's ability to contribute to increased submarine availability in the future.

Together with the relatively smooth transition of the largely in-country supply chain, from construction to the supply of spares for through-life support, the above improvements have resulted in the significant reductions in the relative cost of ownership of Collins Class submarines compared to that for the Oberon Class submarines, in present-dollar terms.

Australia's current sovereign submarine industrial capability is delivering submarine availability to the Navy's submarine force at or beyond international benchmarks and for lower relative cost than its predecessor class.

SUMMARY

The Government's Naval Shipbuilding Plan (2017) and Defence Industrial Capability Plan (2018) make clear that a key objective of its historic investment in naval shipbuilding is achieving sovereign control of future shipbuilding and submarine building, along with sovereignty in ship and submarine sustainment.

The Government's commitment to sovereign defence industry underpins Australia's sovereign defence force, its strategic deterrence in peacetime and its freedom to act in times of conflict. Strong industrial sovereignty can also lead to export opportunities, thereby underpinning our nation's industrial capabilities.

The Australian defence industry is a high value-add advanced manufacturing sector serving a real need (national defence) and produces a 'multiplier effect' throughout the economy through the full breadth and depth of the Australian supply chain. Where the defence customer demands product performance beyond current capabilities, it drives innovation and improvement, resulting in superior products and services as well as a safer and more prosperous nation.

Crucially, for developing sovereign defence capabilities and the sovereign industries they require, Australia must control the Intellectual Property of its major platforms. Sovereign defence industries must have the freedom to deploy the IP, so

that it can conduct the necessary design work, engineering, improvements, production, maintenance and source required materials in country, as well engage other members of Australia's industrial sector.

Submarine platform experience and expertise is scarce and takes many years to achieve. As the Future Submarine program makes further progress it is important that ASC be permitted to continue to successfully deliver Collins Class platform sustainment. ASC believes that the submarine sector taking a broader 'enterprise' approach, across both submarine programs, would best ensure that neither program succeeds at the expense of the other.

ASC will continue to play a constructive "best of nation" role within the growing Australian submarine sector, in support of Government objectives focussed on a strong, sovereign submarine capability for the Royal Australian Navy.

ASC is not privy to all the Government's planning considerations in the implementation of the Naval Shipbuilding Plan and believes the acceptance, or otherwise, of the Bill is the province of Government policy-making.