South Australian Labor

KEEPING DEFENCE JOBS IN SA

SUMMARY

SA'S PLACE IN THE SUBMARINE STORY

" Faced with the prospect of somehow working on the Collins submarine more than 2,000 kilometres away and an uncertain long-term future, ASC's experienced engineers may simply elect to walk across to the other side of Osborne shipyard to work on the Attack class. That would put the viability of a further 25 years of Collins service in a dire position. "

MARCUS HELLYER
Australian Strategic Policy Institute's senior analyst for defence economics and capability

Consideration of re-locating Full Cycle Docking (FCD) of *Collins* class submarines was first canvassed publicly in the 2017 Naval Shipbuilding Plan at Section 2.19.

Under the heading 'Sustainment of the Submarine Fleet', it said;

> *"The design of both surface ship and submarine construction infrastructure at the Osborne Naval Shipyard [in South Australia] will continue to be refined following release of this Naval Shipbuilding Plan. In this context, the government will likely need to consider advice from Defence in coming years on appropriate long-term arrangements, including the location of Collins Class and future submarine sustainment activities.*

The Western Australian Government initiated a high profile campaign in favour of moving FCD to WA. The principal arguments put by WA are that by the mid-2020s *Attack* class submarines and *Hunter* class frigates will be in full production at the Osborne shipyard, putting pressure on 1) facilities and 2) workforce capability.

Neither argument is supported in our submission. Rather, the opposite is likely with significant risks attached to shifting *Collins* class workers and expertise. Those risks to the national interest include delays and cost over-runs for the FCD program.

At a local level, the cost to the South Australian economy of the movement of FCD to Western Australia includes thousands of direct and indirect jobs, billions of dollars in economic activity and a major threat to the shipyard's future.

In the years 2014 to 2016 when South Australia's Weatherill Labor Government advocated for a Continuous Build Program to underpin a national sovereign capability in naval shipbuilding, it was done for the whole of Australia, not just SA.

Our submission on the future of FCD contracts is made from the same dual perspectives.

BACKGROUND

Much of the commentary around the 2016 Federal Government announcements of where Future Submarines and Future Frigates would be built, generated a narrative that somehow South Australia had "got it all".

SA has been the primary shipyard for defence shipbuilding for four decades. It is the only shipyard in Australia to have ever built submarines. It relies, however, on a national supply chain that delivers more work outside of our state than inside it.

Submarine builder ASC estimates that there are around 2500 businesses that make up the Australian defence supply chain. The firms, across 17 industries and 54 sub-industries, hold current defence contracts totalling $87 bn. South Australia's advocacy agency, DefenceSA, estimated last year that South Australia has 7 per cent of those businesses. NSW and Victoria account for a total of 60 per cent.

As the recent Air Warfare Destroyer (AWD) and *Collins* class submarine builds show, the naval shipbuilding pie is shared extensively across the nation.

New South Wales contributes steel manufacture, forming and rolling, combat system components, platform system components and environmental qualification and testing.

Victoria's expertise in materials science supplied externally mounted casings, composite materials technology and advanced manufacturing techniques such as jigs, tooling and robotics.

Tasmania's role included world-class timing devices that overcome the complexities of running a clock when submerged and crossing lines of latitude.

Western Australia has already been a major beneficiary of the submarine story. Mid Cycle Docking (MCD) maintenance is done at ASC's Henderson shipyard near Fremantle and the fleet is based there.

In South Australia we proudly deliver world class submarine design, final construction and installation and Full Cycle Docking rebuilds.

To remove FCD work from a shipyard that now boasts four decades of successful *Collins* class build-and-rebuild expertise would carry the risk of losing local relationships with research institutions, access to supply chain businesses sited close to Osborne and access to a skilled and experienced workforce.

Independent economic analysis shows the FCD work supports around 700 jobs and Life of Type Extension (LOTE) another 205 jobs. Together they make up almost the same number of jobs that Future Submarine construction does. [1]

Whilst the South Australian Government has been concerned about the long-term future of FCD work, the public advocacy campaign has been dominated by the Western Australian Government.

On the 12 of August 2019, Premier Mark McGowan released independent studies that claimed;

- moving *Collins* class submarine maintenance to Western Australia was in the national interest
- Full Cycle Docking will create 3,000 local jobs and contribute more than $8 billion to economy
- Australia's shipbuilding and maintenance programs will be better balanced - spreading the significant skilled workforce needs across two states

The studies also claimed FCD works would "create more than 3,000 jobs at the program's peak and generate up to $8.4 billion to Gross State Product over the life of the program".

A PriceWaterhouseCoopers strategic study, commissioned by WA, said that relocating *Collins* class FCD to WA would be in the national interest because it will de-risk the *Attack* class submarine and *Hunter* class frigate programs.

WA's Premier claimed it would reduce the workforce pressure on South Australia, freeing up workers to concentrate on the "ambitious" build programs.

On 29 September 2019 the WA State Government launched an advertising campaign to secure FCD via a national campaign to appear in newspapers, radio, TV and online. The *'Join the Mission'* campaign was designed to complement the two previously released reports that claimed moving FCD to WA was in the national interest.

The McGowan Government also committed to;

> *"build a new wharf, upgrade support facilities, improve traffic flows and parking at the Australian Marine Complex (AMC) in Henderson, upgrade transfer paths required for submarine maintenance, and further invest in workforce training through South Metropolitan TAFE".* [2]

[1] DefenceSA Advisory Board papers Maritime Subcommittee 6 June 2018
[2] mediastatements.wa.gov.au

THE COUNTER ARGUMENT

The first underlying assumption of the WA bid and the campaign – that South Australia cannot provide an adequate workforce – is not supported by direct evidence. DefenceSA Advisory Board papers from 2018 show that the workforce required for Future Frigates, Future Submarines and *Collins* class FCD and LOTE (4005 jobs) is below that of the workforce engaged in 2014 for Air Warfare Destroyers, *Collins* class sustainment and the then still operating Holden car manufacturing plant (4950 jobs).

The workforce challenges are national; they are not confined to one state or the other. As identified in the recently released Naval Shipbuilding Industry Strategic Workforce Plan [3], skills shortages have been identified in the following areas;

- Lüerssen Australia is the prime contractor for 12 *Arafura* class Offshore Patrol Vessels and are currently mobilising this program in South Australia for the first two vessels and Western Australia for the final 10.
- Naval Shipbuilding Management have just been awarded a contract to provide Maritime Sustainment to Landing Helicopter Dock ships. They will be required to grow a workforce in Sydney to provide this support .
- Liedos has been increasing their workforce in Melbourne and Canberra in support of the JP2096 and other ICT related projects.
- Rheinmetall are currently mobilising to execute LAND 400 Phase 2 which will be delivered in Queensland.
- Lendlease (infrastructure and building contractor) are building infrastructure associated with the Osborne Naval Shipyard precinct and F35 facilities.
- Laing O'Rourke will require significant resources associated with the Osborne NorthSEA1000 site.
- Naval Group Australia is ramping up along with its supply chain to execute the SEA1000 submarine program. The mobilisation of this program is concurrent with BAE Systems Australia/ASC Shipbuilding's mobilisation of the *Hunter* class Frigate Program.
- There is significant activity in the combat systems space for Lockheed Martin and Saab in support of the *Attack* class submarine and *Hunter* class Frigate programs.

The Workforce Plan states that;

> *"based on the nature of existing and mobilising contacts, there will be strong competition for specific talent segments nationally."*

Most importantly, it delivers a warning to the resource-rich WA economy when it also states;

> *"significant pressure remains strong for talent with adjacent industries, including Oil & Gas, Mining and Infrastructure both predicted to grow over the coming years. Compounded by this is the growth within Professional Services that will also drive competition for talent."*

[3] https://www.asc.com.au/assets/downloads/Transitioning_industry_to_a_multi-class_submarine_fleet_-_ASC_SIA_Paper_November_2016.pdf

Nowhere in the WA business cases or campaign materials, does the WA Government address how it will deal with pressures arising from the Oil & Gas and Mining sectors.

It's to this point that we identify the main weakness with the WA case, reviving memories of what happened the last time such significant work was shifted from one shipyard to another.

In a 2016 conference paper delivered to the Submarine Institute of Australia on the challenges facing Australia's multi-class submarine fleet, ASC examined the decision to shift the refits of *Oberon* class submarines from Cockatoo Island shipyard to Garden Island shipyard. [4]

The ASC paper outlined the disruption to submarine capability when the construction of *Collins* class began in 1987 at the same time as two *Oberon* class submarines were due for refits, also coinciding with a decision to terminate the Cockatoo Island Dockyard lease.

The uncertainty had flow-on effects, all documented in the ASC paper. The key point, however, is that the last two *Oberon* refits, that of *HMAS Onslow* and *HMAS Otama* were one year and three years late, respectively. Otama took five years to rejoin the fleet. As the ASC paper states;

> *"These last two refits were significantly more costly than those conducted at Cockatoo Island and probably contributed to the decision to retire the last two submarines early, by not performing a third refit for each."*

[4] https://www.asc.com.au/assets/downloads/Transitioning_industry_to_a_multi-class_submarine_fleet_-_ASC_SIA_Paper_November_2016.pdf

Most importantly, the cost, in current dollar terms, of the last *Oberon* refits was more than that of a *Collins* Class FCD today and it took another 20 years for submarine sustainment in Australia to again approach world benchmark performance. [5]

The second assumption of the WA campaign is that there will not be enough space at the Osborne shipyards for all programs at their peak.

The Australian Strategic Policy Institute's senior analyst for defence economics and capability, Marcus Hellyer argued in 2018 the pros and cons of this proposition in his landmark assessment of how Defence should think through the submarine transition. [6]

Hellyer argues that the traditional distinctions between design and build, between upgrade and sustainment, and indeed between different classes of vessel won't be as absolute, requiring Defence and its industry partners to think differently.

Overall, he says, Australia's submarine capability must be treated as a single enterprise, not two distinct fleets.

In further analysis, he outlined the role that FCD of *Collins* would play in the context of building *Attack* class. [7]

[5] https://www.asc.com.au/assets/downloads/Transitioning_industry_to_a_multi-class_submarine_fleet_-_ASC_SIA_Paper_November_2016.pdf
[6] https:// www.aspi.org.au/report/thinking-through-submarine-transition
[7] https://www.aspistrategist.org.au/the-government-must-create-a-single-australian-submarine-enterprise/

> *"Rather than the current laissez-faire approach, the government could decide that the long-term sustainment, including full-cycle dockings and upgrades, of all of Australia's submarines will be conducted by ASC, an Australian-government-owned entity that has shown itself capable of world's best practice in submarine sustainment. That would necessarily include the Attack class,"* Hellyer says.

The decision would give ASC's workforce (both existing and yet to be recruited) certainty about their future and allow the enterprise to manage a planned workforce transition.

For ASC to sustain the *Attack* class successfully, it would need to understand its design philosophy. That means ASC would need to be meaningfully incorporated into Naval Group's design and build processes.

It's often stated that a key lesson from the *Collins* program is that submarines need to be designed for sovereign sustainment.

> *Injecting ASC's hard-won knowledge in sustaining Australian submarines in Australian operating conditions into the design of the Attack class seems essential.*

Hellyer also makes a strong case for the role of FCD of both classes in ensuring that there is maximum local content in the Future Submarine program.

> *"The government has repeatedly emphasised its requirement for a sovereign submarine capability. ASC now sources around 90% of Collins components locally. That approach should be incorporated into the Attack-class program, to maximise both sovereign capability and Australian industry capability."*

Hellyer's assessment makes no mention of land constraints, presumably because he has visited the vast areas at Osborne and concluded that where there is a need, a way will be found.

He does, however, make a specific warning about the potential loss of skilled workers, again undermining the WA case and campaign.

> *ASC's existing workforce is unlikely to move to Western Australia. While the blue-collar workforce could potentially be rebuilt in the west on the foundation of the team already performing mid-cycle dockings there, ASC's engineering workforce couldn't be rebuilt there from scratch. Faced with the prospect of somehow working on the Collins submarine more than 2,000 kilometres away and an uncertain long-term future, ASC's experienced engineers may simply elect to walk across to the other side of Osborne shipyard to work on the Attack class. That would put the viability of a further 25 years of Collins service in a dire position."*

LOCAL IMPACT

As attachment one shows, *Collins* class sustainment is of almost equal value to South Australia as the construction of the *Attack* class.

FCD and LOTE work will continue on *Collins* until 2026 and 2036 respectively with the first *Attack* class submarine expected to be in service in 2032.

The DefenceSA Advisory Board has already considered the impact of relocating FCD and LOTE to WA. The Board's December 2018 meeting was advised by Defence SA that;

- The 5200 jobs in the Naval Shipbuilding Plan will not be realised because of modern techniques and the first-of-class deconfliction. Whilst the focus should be on productivity and capability, the realpolitik and GDP contribution are delivered by employment.
- It is naïve to believe that ASC over the long run will remain in South Australia if there is no production activity. The centre of gravity of ASC will shift to Western Australia and subsequently the LOTE design and production capability may relocate by either design or drift as workers leave to join Naval Group.

If DefenceSA's concerns were to come to fruition, South Australia's manufacturing industry sector would take the biggest hit since the closure of Holden in 2013-17.

Such a second hit in less than a decade would be catastrophic for the economy and the resulting job losses would have broad social impacts.

CONCLUSION

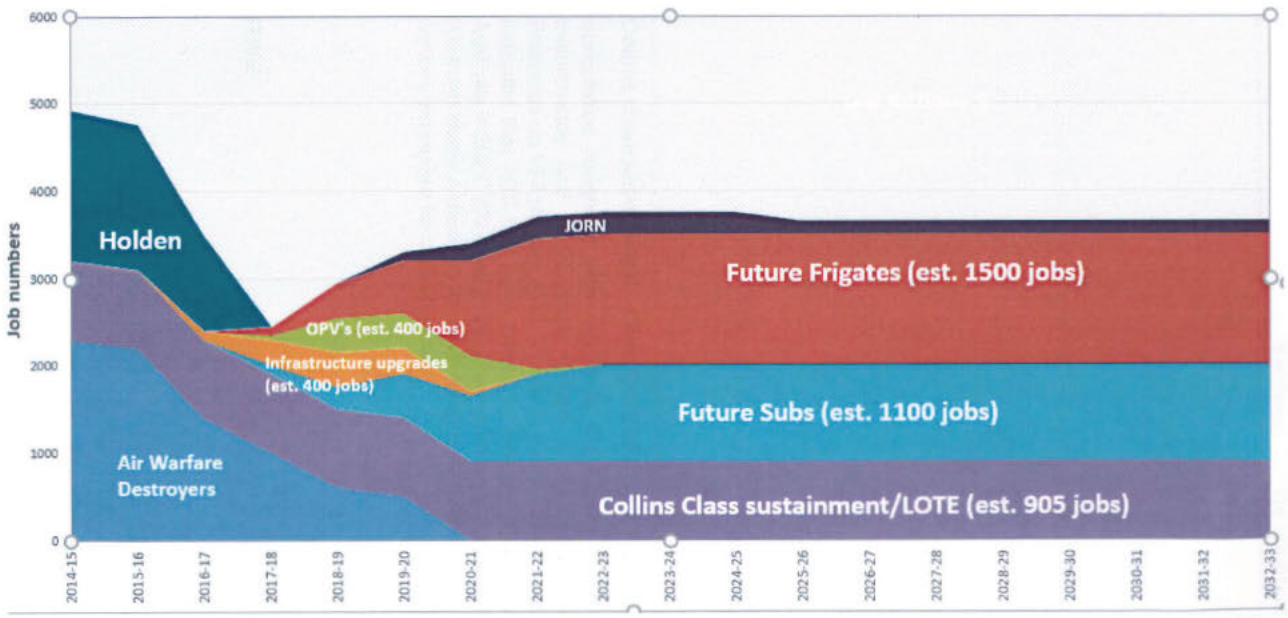
The WA campaign lacks evidentiary argument. It does not match with the evolved four-decade history of excellence in submarine construction and sustainment in South Australia.

It also counters the strategic aims of the transition to a multi-class fleet before the *Collins* is eventually retired.

The WA option is high risk.

History shows that continuing FCD in South Australia is in the national interest and essential to the success of the Naval Shipbuilding Plan.

ATTACHMENT 1



Indirect jobs supporting these projects can be as high as three times the above figures, with an expectation that a substantial proportion of these will be in South Australia.

MARITIME SUBCOMMITTEE MEETING
15 March 2019

ATTACHMENT 2

Developing Australian Naval Shipbuilding

The Royal Australian Navy's Sea Power Centre, based within the Department of Defence, noted in its August 2008 paper on The Economic Benefits of Naval Shipbuilding, that *"naval shipbuilding is not only a fundamental component of Australian sea power, but also of direct benefit to the wider community, generating growth in the manufacturing, heavy engineering and information technology sectors of Australian industry"*.

More than 100 years of our nation's sea power have risen and fallen on the relationship between defence and industry. In the early part of the 20th century the workers at HMA Naval Dockyard, Cockatoo Island, Sydney, benefitted from skill transfers via workers from the long-established shipyards in Scotland and England.

The Australian industry encountered post-World War II difficulties associated with sourcing materials, technology and skills, problems that reflected the difficulties of mounting such a large industrial endeavour with a small population.

During the 1960s and 70s the Australian Government chose to build some RAN ships in foreign yards, notably three *Perth* class destroyers from the USA, four *Adelaide* class frigates also from the USA and the six *Oberon* class submarines from the United Kingdom. In 1969, to counter the industrial impact, the government introduced "offsets" forcing the foreign companies to sub-contract 20 per cent of the work to Australian industry. [8]

In 1983, the newly-elected Hawke Government re-wrote industrial policy, including an Australian industry Involvement program for the Defence industry. Under that policy items had to be manufactured, assembled or tested in Australia to a level of 30 per cent local content, to encourage technology transfer. [9] For the next 20 years, local content was set at 70 per cent and all ships were built in Australia.

The largest procurement in Australia's history coincided with this commitment to developing local industry and followed a concerted campaign by South Australia shipbuilders to be given the opportunity to operate at world-class level.

South Australian business leaders, notably German shipbuilder Hans Orff, Australian engineer John White and national railway infrastructure engineer Dr Don Williams were pursuing a different path. They put forward a persuasive argument that building submarines in Australia made strategic and economic sense. [10] In 1984 the three joined with the influential national secretary of the Metal Workers Union, John Halfpenny, to ensure industrial harmony at national shipbuilding sites.

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[8] Thompson, "Competition in Australian Defence Procurement", Committee for Economic Development of Australia (CEDA), Growth 57: The Business of Defence – sustaining capability, Melbourne 2006 p.35.

[9] Department of Defence, The Defence of Australia 1987 AGPS, Canberra 1987 p.80.

[10] The Australian Literary Review, Cameron Stewart p16

Under the guidance of new Defence Minister Kim Beazley in 1985, Federal cabinet considered several design options aside from the British one contemplated earlier.

The design was based on modular technology, allowing input from shipyards in the eastern states, but centred on a new high-tech facility at Osborne in South Australia.

Construction began in 1987 and while the diesel-powered subs had teething problems (all rectified by local engineers and designers), the *Collins* Class project is arguably the most successful one in Australian shipbuilding history - especially considering that Australia had never built a submarine before.

The basic design was developed by Kockums in Sweden, an experienced builder of small submarines and a pioneer in modular shipbuilding. But Australian Navy requirements for long range, long endurance and stealth meant that the adjusted Collins boats are amongst the largest and most sophisticated non-nuclear subs in the world. [11]

In the years since the Collins decision, Australia has built;

- 10 Anzac class frigates
- 6 Huon class minehunters at Newcastle.
- 14 Fremantle class patrol boats
- 2 Leeuwin class hydrographic ships.
- 14 Armidale class patrol boats.
- 5 Anzac class frigates
- 3 Hobart class Air Warfare Destroyers (AWDs)
- 2 Canberra class amphibious ships (LHDs).

In the decades since the Hawke Government's commitment to industry's partnership with defence, there has been significant technology transfer to local business.

Foreign firms such as Saab, Raytheon, Thales and Lockheed Martin have established, or expanded their presence in South Australia. They have formed strategic partnerships with local industry. Improved business and management techniques have provided opportunities for local companies to improve the quality of their processes and products.

[11] Bill Hall, 23 July 2008 review of The Collins Class Submarine Story: Steel, Spies and Spin By Peter Yule, Derek Woolner. Cambridge University Press

As a result, the product lines of the companies involved have expanded and they have improved their export potential.

As the Royal Australian Navy's own research shows, one element often forgotten in considerations of naval shipbuilding is;

> *"the logistic support, maintenance, and modernisation of these ships. A local build, combined with the retention of industrial capacity normally allows for through-life support at a lower cost than if the vessels had been built overseas, primarily because the parts and expertise are in Australia. There are clear inter-relationships between the commercial and naval shipbuilding sectors."* [12]

These observations on local content and expertise extend to complex undertakings such as the refits of *Anzac* frigates and Full Cycle Dockings (FCD) for the *Collins* submarines. The FCD work has been under contract to ASC in Adelaide since 2003, during which time a range of world-first techniques have been developed.

The complex interactions between industry, researchers and shipbuilders have evolved in Adelaide over almost four decades.

Important links with Australia's research and development sector are encouraged particularly in the Osborne shipyard, which is now a defence industry hub near the Defence Science and Technology Organisation in Salisbury.

Those skills and relationships cannot just simply be shipped over the Western Australia.

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[12] Department of Industry and Resources, *Australian Marine Complex*, 2006, p. 5.

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