

**Submission to the Joint Standing Committee on Treaties Inquiry into the  
Nuclear Powered Submarine Partnership and Collaboration Agreement  
between the Government of Australia and the Government of Great Britain and  
Northern Ireland.**

**Introduction**

**Background**

1. This submission will argue that AUKUS pillar 1, Australia's transition to a sovereign, nuclear powered, conventionally armed submarine capability is a good idea, directed by a seriously flawed plan. Far from being 'optimal', the path we are on leads elsewhere, with several components with a high risk of failure on the way. Many of these risks are completely beyond our control.

**Terms of Reference Relevance**

2. The existence of the Treaty could be seen as reassuring; however, any reassurance is illusory, it provides no protection for Australia against the flaws in the 'optimal pathway'. Furthermore, the Treaty provides no protection for Australia against the failure of the UK's SSN AUKUS building plan and failure is highly likely. On the contrary, it protects UK against any claims for flaws in SSN AUKUS design or delays in delivery.

3. The Treaty will make Australia entirely dependent on an already fragile UK submarine industry, with no rights to ensure either the program or the design is in Australia's interests. It could be used to remove the Australian government's ability to use Australian industry in any stages of the program and effectively legislates that British industry must be considered as Australian.

4. This submission will detail these shortcomings and propose an alternative, lower risk acquisition plan.

**Discussion**

**Virginia, We Have A Problem**

5. First, the sale by the US of 3-5 Virginia class submarines to cover the gap between the demise of the Collins class and arrival of the new, UK designed SSN AUKUS is [unlikely to occur](https://www.aspistrategist.org.au/virginia-we-have-a-problem/).<sup>1</sup>

6. A Congressional Research Service [Report](https://www.congress.gov/crs-product/RL32418)<sup>2</sup> issued on 28 March 2025 advised that at the end of FY2024 the US Navy had 49 operational attack submarines and forecast a decline to 47 in FY2030. However, the reduction to 47 has been reached in 2025; 5 years early. There are delays in commissioning new Virginia class submarines, which are taking longer to build, for example, the latest SSN 795, USS

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<sup>1</sup> <https://www.aspistrategist.org.au/virginia-we-have-a-problem/>

<sup>2</sup> <https://www.congress.gov/crs-product/RL32418>

Iowa commissioned in April this year, [40 months late](#)<sup>3</sup> on the contracted date. Meanwhile, ageing Los Angeles class retire as their hull and/or reactor life expires. The [source](#)<sup>4</sup> for the number of attack submarines is the US Navy's official website, which advises that some submarines undergoing inactivation may be included in the 47, implying that the number of operational submarines is actually less.

7. Delays in maintaining the submarines already in service are also reducing the number available for deployment.

8. Current moves to [recover slippage](#)<sup>5</sup> and accelerate the Columbia class ballistic missile construction program and a shift to construction of a larger version of the Virginia means further delays and shrinkage – the number of operational attack submarines has yet to bottom out.

9. I predict that the USN SSN force could be reduced to 41 or less by 2032.

10. This assumes that the remaining 4 Block IV Virginia class submarines under construction commission 6 years after they were laid down and the 3 currently laid down Block V submarines commission 8 years after they were laid down. If so, by January 2032 there will be 7 new SSNs to add to this number. This estimate could prove optimistic; we have yet to see how long it will take the over taxed shipyards and supply chains to build the Block V. On the negative side of the ledger; retirement of Los Angeles class continues faster than they can be replaced. Assuming the 7 life extended submarines are still operational, (although the youngest will be 36 years old), the Navy loses 13 of these submarines. It could be worse, old submarines have a habit of springing [surprises](#)<sup>6</sup>. Let's assume the USS Seawolf will still be operational, although 35 years old and approaching retirement.

11. Faced with the reality of shrinking/ageing SSN force and delivery of replacement submarines delayed behind the higher priority Columbia and slower build rate of the larger Virginias the decision due in 2031 on whether the sell Australia 3-5 frontline SSNs should be easy. Can the US spare 3 frontline Virginias from the 31 in service? The answer will be; *'sorry, we have none to spare'*.

12. Delivering new submarines has been made more difficult by an uptick in the Columbia program cadence; the US's [top priority](#)<sup>7</sup> is to build 12 new, Columbia class, 20,810 tonne ballistic missile submarines. The first two submarines have been laid down several years apart in 2021 and 2024, to ease the load on the building yards. From 2026, until 2035 the tempo increases to one laid down each year – a huge extra load on the building yards, not to mention the space required for a production line of 7-8 of these very large submarines.

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<sup>3</sup>

[https://www.reddit.com/r/WarshipPorn/comments/1mub7x5/album\\_viriniaclass\\_ssn\\_deliveries\\_directors\\_cut/](https://www.reddit.com/r/WarshipPorn/comments/1mub7x5/album_viriniaclass_ssn_deliveries_directors_cut/)

<sup>4</sup> <https://www.nvr.navy.mil/nvr/getpage.htm?pagetype=shipbattleforce>

<sup>5</sup> <https://news.usni.org/2025/04/09/first-columbia-class-sub-two-aircraft-carriers-face-delivery-delays-navy-officials-tell-senate>

<sup>6</sup> <https://www.defensedaily.com/cno-nominee-open-to-ditching-boise-adding-ship-repair-and-construction-work-outside-u-s-navy-usmc/>

<sup>7</sup> <https://www.cbo.gov/publication/60732>

13. These problems will be compounded by an increase in the size and complexity of the Virginia class submarines being built. Once the remaining 4 Block IV, 7,800 tonne submarines currently under construction are delivered, production will shift to the 10,200 tonne Block V version. This is 31% larger and more complex than the Block IV. Ten of these larger versions are on order, only 3 have been laid down. They are to be followed by 3 Block VI submarines of a similar size and complexity.

14. The new target, encompassing a Columbia each year and two of the larger Virginias would require at least a threefold increase in submarine construction tonnage compared with annual average build of 1.14 smaller versions of the Virginia actually achieved over the last 21 years. Compared to the US Navy's target of delivering 2 Virginias each year over this period, that is a cumulative shortfall of 18 SSNs.

15. Adding the requirement to build additional submarines, to replace those to be sold to Australia, would require a more than a fourfold increase in construction yard output measured by tonnage. These submarines have not been laid down – the yards are fully committed hence; these submarines are many years away from commissioning.

16. This is a far starker picture than the 100% increase called for by the incoming Chief of Naval Operations, Admiral Caudle in his [recent advice to Congress](#).<sup>8</sup>

17. Even if this increased output is achieved, there will predictably be no Virginias to spare for Australia due to the shortfall in USN numbers. In the final analysis, the USN remains well short of its target of 66 attack submarines, it has 47 or less now and is heading towards 41 or less in my estimate. It will be this shortfall in numbers that will be the deciding factor.

18. As the [Congressional Budget Office](#)<sup>9</sup> recently concluded, selling 3-5 submarines would translate to a loss of many operational years for the US before this capability could be replaced.

19. In these circumstances, Australian payments millions of dollars to support the US industrial base is [justifiably being questioned](#).<sup>10</sup>

### The Status of UK's Submarine Capability

20. SSN AUKUS depends on UK's submarine capability to design and build two new classes of nuclear-powered submarines and complete the build program for the

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<sup>8</sup> <https://news.usni.org/2025/07/24/cno-nominee-caudle-says-sub-construction-pace-needs-to-grow-to-deliver-on-aukus-promise>

<sup>9</sup> <https://www.defensedaily.com/cbo-predicts-aukus-sub-sales-to-reduce-u-s-inventory-for-20-years/navy-usmc/>

<sup>10</sup> <https://johnmenadue.com/post/2025/08/chasing-a-chimera-the-political-dream-of-aukus-that-consumes-reality/>

delayed Astute class SSN. This capability is directly relevant to the reassurance provided by the Treaty. UK's submarine capability is also [in a mess,<sup>11</sup> with recent calls for greater UK Parliamentary scrutiny of the Defence Nuclear Enterprise<sup>12</sup>](#). Reviews by the [National Audit Office<sup>13</sup>](#) and [UK Parliament<sup>14</sup>](#) have identified the fragility of the UK nuclear submarine enterprise.

21. The first priority for the UK's submarine design and building capability is 4 of the [Dreadnought<sup>15</sup>](#) class ballistic missile submarines, to replace the worn out Vanguard class, which have reached their end of life.

22. The effort required for the current, Vanguard class submarines to sustain a ballistic missile submarine capability, continuously patrolling at sea, ready to launch, has [unbalanced the UK's defence budget<sup>16</sup>](#). Shortfalls in specialised submarine support facilities, the need for an [unscheduled refuelling<sup>17</sup>](#) to avoid a reactor safety issue and crew shortfalls have led to [record breaking, extended patrols<sup>18</sup>](#). The pressures from these have created a downward spiral of greater maintenance challenges and crewing problems!

23. The UK's second priority, the Astute program is also a mess. Of the five submarines delivered, all years late and significantly over budget, currently [none are at sea<sup>19</sup>](#):

- Astute has just entered [mid-life refit<sup>20</sup>](#), joining her sister ship Audacious in Devonport dry docks.
- Ambush is alongside in the submarine base in Faslane and has not been to sea for 3 years, along with her sister ship, Artful, which has not been to sea for 2 years.
- The fifth and final operational SSN, Anson has just returned to Faslane.

24. Two of the class are yet to be delivered.

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<sup>11</sup> <https://www.aspistrategist.org.au/the-sad-state-of-royal-navy-submarine-capability-and-the-implications-for-australia/>

<sup>12</sup> <https://rethinkingsecurity.org.uk/2025/04/24/the-case-for-parliament-to-scrutinise-the-uks-nuclear-weapons-programme/>

<sup>13</sup> <https://www.nao.org.uk/reports/the-defence-nuclear-enterprise-a-landscape-review/>

<sup>14</sup> <https://www.gov.uk/government/publications/the-united-kingdoms-future-nuclear-deterrent-the-2019-update-to-parliament/the-united-kingdoms-future-nuclear-deterrent-the-2019-update-to-parliament>

<sup>15</sup> <https://www.naval-technology.com/projects/dreadnought-class-nuclear-powered-ballistic-missile-submarines/>

<sup>16</sup> <https://www.nuclearinfo.org/article/mod-equipment-affordability-risks-remain-despite-48bn-extra-funding/>

<sup>17</sup> <https://www.navylookout.com/hms-vanguard-finally-sails-from-devonport-after-refit-lasting-more-than-7-years/>

<sup>18</sup> <https://www.navylookout.com/royal-navy-vanguard-class-submarine-come-home-after-breaking-the-record-for-the-longest-patrol/>

<sup>19</sup> <https://www.navylookout.com/hms-anson-returns-to-faslane-no-royal-navy-attack-submarines-at-sea/>

<sup>20</sup> <https://www.navylookout.com/royal-navy-submarine-hms-astute-first-a-class-boat-to-undergo-mid-life-refit/>

25. The UK's third priority is a replacement attack submarine; this submarine is known as SSN AUKUS and is a replacement for UK's Astute class attack submarine. (SSN AUKUS for the RAN is to be built in Australia under the AUKUS agreement.)

26. UK's Submarine Arm appears to have fallen below critical mass, evidenced by the difficulties they have experienced in [replacing the senior submarine leadership](#).<sup>21</sup> Recovery will be challenging and prolonged. For example, future commanding officers, engineers and technicians require seagoing submarines, to gain experience. One seagoing ballistic missile submarine and an occasional attack submarine offer insufficient opportunity for this. A recent decision to allow '[rescrubs' on the UK's submarine commanding officer's course](#)<sup>22</sup> (it was called the 'Perisher', as failure meant exiting the submarine arm) illustrates the compromises in standards now required. The expansion in submarine personnel, industry workforce and facilities required to meet the Government's recently announced goal of [12 new attack submarines, delivered at 18 month intervals](#)<sup>23</sup> would be a huge challenge.

27. The UK's submarine design, supply chain and build capability are in [no better shape](#)<sup>24</sup> to meet this political goal. Such a program would require:

- Laying down an attack submarine every 18 months.
- Having sufficient space for the resultant production line:
  - o For example, a delivery interval of 18 months and a build time of say, 10 years, means there will be 6-7 submarines in various stages of construction at the peak of the program.
- A shipyard with sufficient space and equipped to accommodate this is required.
- The second critical input is the workforce to staff the production line and supply chains.
- None of these capabilities exists today.
- The UK's ability to achieve the construction expansion and workforce increases needed to simultaneously address the larger size and accelerated build rates of SSN AUKUS plus simultaneous build of 4 Dreadnought class ballistic missile submarines should be regarded as high risk.

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<sup>21</sup> <https://www.aspistrategist.org.au/the-sad-state-of-royal-navy-submarine-capability-and-the-implications-for-australia/>

<sup>22</sup> <https://www.telegraph.co.uk/news/2025/08/16/submarine-exam-resits-britains-nuclear-deterrent-risk/>

<sup>23</sup> <https://www.navylookout.com/government-commits-to-building-12-ssn-aukus-submarines/>

<sup>24</sup> <https://strategicanalysis.org/awkward-truths-about-us-and-uk-aukus-challenges/>

### Is SSN AUKUS – Australia's Solution?

28. The new SSN AUKUS is to be over 10,000 tonnes, more than 27% larger than the Virginias proposed to be sold to Australia. Why Australia needs such a large, expensive submarine has not been explained.

29. The submarine is [still being designed](#)<sup>25</sup> – there are no costings, no production schedules and no milestones publicly available to validate 'schedule free' assurances that all is well. [Earlier talk](#)<sup>26</sup> of a mature design is no longer heard.

30. The project to manufacture the reactor cores for the new ballistic missile submarines and SSN AUKUS is in serious difficulties. Three successive years of red cards from the [UK's independent auditor](#),<sup>27</sup> which noted that '*Successful delivery of the project appears to be unachievable*' - another mess! Unlike its predecessors no shore base prototype has been built to de-bug and validate the design. Any delay in manufacturing the reactor cores will impact delivery of the new ballistic missile submarines and hence, delay starting on the SSN AUKUS production line.

31. Based on past performance and the issues set out above, the British program to deliver SSN AUKUS cannot be fast tacked, indeed, it is highly likely that it will be late, over budget and with the first of class issues which are a feature of any new design.

31. I would argue that SSN AUKUS at over 10,000 tonnes is too big for Australia's needs, will cost too much to build and own, and will probably require a large crew. This has significant consequences:

- We [need 12](#)<sup>28</sup> submarines but cannot afford the cost or personnel of this large submarine, settling for 8 instead – thus, following UK into another mess; a submarine arm below critical mass, unable to generate and retain sufficient experienced personnel to oversee the capability.
- [Building our own SSN AUKUS in Australia](#)<sup>29</sup> is necessary because neither the US nor UK has spare capacity.
- It is also important to establish the skills and supply chains for through life support and ensure much of the cost is spent in Australia.
- The recent ANAO report on the [LHD in-service support](#)<sup>30</sup> has shown that if we don't build in Australia with high local content, then we can't support the vessel.
- Depending on a 12,000 mile supply line for a critical capability in war is a folly.

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<sup>25</sup> <https://strategicanalysis.org/ssn-aukus-a-mature-design-just-many-defining-things-not-settled/>

<sup>26</sup> <https://www.afr.com/politics/federal/show-me-the-evidence-aukus-tsar-challenges-critics-20240725-p5jwgr>

<sup>27</sup> [https://assets.publishing.service.gov.uk/media/678a4a9869b9b76c761d0574/IPA\\_Annual\\_Report\\_2023-24.pdf](https://assets.publishing.service.gov.uk/media/678a4a9869b9b76c761d0574/IPA_Annual_Report_2023-24.pdf)

<sup>28</sup> <https://www.aspistrategist.org.au/how-many-nuclear-powered-submarines-for-australia/>

<sup>29</sup> <https://www.aspistrategist.org.au/to-control-our-destiny-we-must-learn-from-our-past-for-the-aukus-ssn/>

<sup>30</sup> <https://www.aspistrategist.org.au/catastrophic-failures-defence-budget-squeeze-hits-navy-maintenance/>



- There is a precedent; it was very successfully done for the Collins program. The contract specified at least 60% Australian Industry content for the platform; [this was exceeded](#).<sup>31</sup> Today [more than 90%](#)<sup>32</sup> of funds spent on Collins sustainment are spent in Australia.
- A program for 12 submarines, delivered at 3-year intervals would result in a continuous build program, ie, as number 12 is delivered it is almost time to replace number 1.
- A continuous build program avoids the greater expense and risk of a stop/start program which would arise from only building 8 submarines.
- In this situation there would typically be a 10-year gap between delivering number 8 and the submarine to replace number 1.
- Building them overseas in UK, would require major expansion of the UK's submarine building capacity – which we would pay for.
- This would also establish an ongoing dependency on UK and consequent lack of sovereign control, with reliance on an overseas supply chain that maximises the money spent and skills outside Australia.

32. The final mess; the Australia Government has proved unwilling to increase the Defence vote to fund the program. Instead, funds are being diverted from other [important defence capabilities](#)<sup>33</sup> – Australia's SSN AUKUS program is eating everyone else's lunch.

33.. Additionally, decision making and funding for essential infrastructure to support the capability is now [years behind schedule](#).<sup>34</sup> Similar to the situation which has led to UK's inability to sustain its submarines.

34. Major Australian private industry has not been engaged in any meaningful way – a historically proven essential ingredient in successful defence programs (e.g. the [ANZAC frigates](#)).<sup>35</sup>

35. In the unlikely event that the current plan delivers submarines as planned, Australia would be facing the [daunting challenge](#)<sup>36</sup> of translating a sub critical mass of two US designed and built, second hand Virginia class submarines, one new Virginia and up to five British designed, Australian built, SSN AUKUS, all dependent on overseas supply chains, into an operational force. A scenario highly unlikely to be achieved.

36. The existing plan, the so called 'optimal pathway' is comprised of multiple, serial risks; I would describe it as a quagmire.

37. A capability gap looms!

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<sup>31</sup> [https://en.wikipedia.org/wiki/Collins-class\\_submarine](https://en.wikipedia.org/wiki/Collins-class_submarine)

<sup>32</sup> <https://defencesa.com/news-events-and-media/news/new-sustainment-contract-to-secure-more-local-jobs/>

<sup>33</sup> <https://www.abc.net.au/news/2024-11-04/australian-military-satellite-program-faces-the-axe/104557112>

<sup>34</sup> <https://www.lowyinstitute.org/the-interpreter/aukus-building-confidence-australia-s-submarine-pathway>

<sup>35</sup> <https://www.aspistrategist.org.au/wp-content/uploads/2014/07/Impact-of-major-defence-projects-a-case-study-of-the-ANZAC-ship-project.pdf>

<sup>36</sup> <https://www.aspistrategist.org.au/reducing-risks-cost-and-time-to-acquire-our-aukus-attack-submarines/>

### Does The Treaty Reduce Australia's Risks?

38. Article IV recognises the sovereignty of each party but the reality is that the UK controls the design and much of the supply chain, this impacts Australia's sovereignty.

39. Australia's ability to influence the design or to insist on features to meet Australia's requirements is not explicitly established under Article IX paragraphs C and D. For example, experience with the Oberon Class conventional submarines reinforced the point that the different oceanic environments necessitated changes in materials, anti-corrosion systems, air conditioning and other support services. Operational requirements drove differences in the sonars, combat system and weapons. There appears to be no recognition of these hard learnt realities in the Treaty.

40. Article XII sets out the intentions regarding establishment of a submarine industry base in each country. The need to establish an Australian supply chain should be mandated, as was done successfully for the [Anzac and Collins programmes](#),<sup>37</sup> if we are to avoid a complete dependence on the UK's supply chain. Given the UK's intention to construct the first of class and its predominance in the relationship as the designer, this can only be achieved by directing a specified level of Australian Industry Content for the Australian build.

41. Australia's experience with the Oberon class submarines where we were highly dependent on a UK based supply chain is germane. During the Falklands War in 1982, the UK declared a *force majeure* incident and diverted spares on order and paid for by Australia, to sustain the UK's Oberon Class submarines. Article XIV paragraph B 1-3 sets the scene for similar arbitrary intervention.

42. Despite assurances of mutual agreement on costs, Article XIX leaves the UK in a dominant position to levy charges on Australia. I suggest that some method of independent arbitration to resolve differences of opinion in such matters would be wise.

43. The attachment to Australian [Submarine Agency's National Interest Analysis](#)<sup>38</sup> (2025) ATNIA 7 of the Treaty affirms that, "no public, industry and non-governmental consultation has occurred", on the grounds that the Treaty involves national security and operational capability matters. This is a critical shortcoming, since the Treaty will no doubt have major impacts in all these areas.

### Avoiding A Capability Gap

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<sup>37</sup> <https://www.aspistrategist.org.au/to-control-our-destiny-we-must-learn-from-our-past-for-the-aucus-ssn/>

<sup>38</sup> <https://www.asa.gov.au/sites/default/files/documents/2025-07/National%20Interest%20Analysis%20%5B2025%5D%20ATNIA%207%20and%20Nuclear-Powered%20Submarine%20Partnership%20and%20Collaboration%20Agreement%20between%20the%20Government%20of%20Australia%20and%20the%20Government%20of%20the%20United%20Kingdom%20of%20Great%20Britain%20and%20.pdf>



44. The Government needs to change course, to avoid others' poorly managed risks and better manage our own:

- Plan B should settle on one class of submarine, not the old and new Virginia SSN and SSN AUKUS mix now envisaged.
- The submarine selected should be based on a mature design, in production, not, as SSN AUKUS is, a new design from questionable antecedents.
- There are two obvious options; a [Virginia derivative](#),<sup>39</sup> or the [French Suffren](#).<sup>40</sup>
- Perhaps a competitive process to select the best fit for Australia?

45. Australia must [control its own destiny](#),<sup>41</sup> not outsource it to become part of someone else's unmanageable risk. The current plan leads to an expensive, much delayed and highly uncertain capability outcome, that at best would not meet our sovereign operating and strategic requirements.

46. Changing at this late stage would not inject further delay; it will be quicker. The current plan is not going to deliver a sovereign, operational capability any time soon, if ever and given the uncertainties set out above, certainly not as planned. Since we have no accurate, contracted costings for the current plan, it is unlikely that an accurately priced contract for a known design would be more expensive compared to the great unknown and serial delays which await SSN AUKUS. Yes, it would require political courage, but given the [growing concerns](#)<sup>42</sup> over the current plan, a change that provides greater sovereignty, plus improved certainty over costs and timings would be a welcome. Finally, the risks involved are more within Australia's control and far more manageable. Time for Plan B!

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<sup>39</sup> <https://www.aspistrategist.org.au/reducing-risks-cost-and-time-to-acquire-our-aukus-attack-submarines/>

<sup>40</sup> <https://www.aspistrategist.org.au/aukus-risks-are-piling-up-australia-must-prepare-to-build-french-ssns-instead/>

<sup>41</sup> <https://www.aspistrategist.org.au/to-control-our-destiny-we-must-learn-from-our-past-for-the-aukus-ssn/>

<sup>42</sup> <https://thediplomat.com/2024/05/aukus-faces-mounting-challenges-australia-must-address-them/>

### **Conclusion**

47. It is concluded that the Treaty is underpinning a flawed plan and protecting the UK, not Australia, against warranty claims or failures in SSN AUKUS delivery or design. Ratifying it will do nothing to correct this and may well provide a false sense of reassurance and progress.

48. This should be avoided by changing the plan to acquire a nuclear-powered submarine capability, avoiding the pitfalls identified above.

### **Recommendation**

49. The Treaty should be modified before ratification to better protect Australia's interests and mandate Australian Industry content in order to ensure a sovereign Australian supply chain is established to the fullest extent possible.

50. The issues raised in this submission warrant referral to the Joint Committee Foreign Affairs, Defence and Trade for consideration.

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