POLICY BRIEF

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AUKUS after San Diego: The Real Challenges and Nuclear Risks

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Cover Photo: President Joe Biden, British Prime Minister Rishi Sunak and Australian Prime Minister Anthony Albanese at the AUKUS meeting in San Diego, California, March 13, 2023 (US Department of Defense).

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EXECUTIVE SUMMARY

The AUKUS SSN programme details announced on in San Diego on 13 March significantly enhance the capability of the AUKUS countries to counter Chinese influence in the Indo-Pacific region in this century, augments the national submarine capabilities of all three nations, and will be the foundation of improved stability in the Indo-Pacific region. Contrary to the misinformation from Beijing, amplified by knee-jerking from within the non-proliferation community, it poses no credible risk of proliferation of fissile material for weapons purposes. Provided that it is not emasculated by foolish nuclear adventurism – such as a US decision to acquire submarine-launched nuclear-armed cruise missiles – it will prove to be a force for good.

INTRODUCTION

In 2021, the US, Australia and the UK announced a new alliance, forged to counter the increasing hegemonic ambitions of China in the Indo-Pacific region and to mark shared objectives in the region. For all three nations it cemented separate and differently scaled "pivots or tilts" towards the region. One of the three pillars of the alliance agreement was an undertaking to find a mechanism where the Australian Navy would receive nuclear-powered attack submarines (SSNs) from either or both of the partners with decades of experience of design, build and operation of these complex capabilities. The scale of the challenge set by the political agreement to the defence capabilities of all three countries on that day in every respect cannot be overstated.

In San Diego on 13 March 2023, the leaders of the three countries gathered again to announce that this prodigious amount of work had reached a stage where they could announce a comprehensive programme going forward. In essence the Australian SSNs would form a shared production stream with the UK's SSN programme designed to replace the Astute class. This project, previously known as the SSN(R) or replacement, will be known as SSN-AUKUS, a shared build in the UK supplying both the Royal Navy and the Royal Australian Navy (RAN). The technology to be included in this new class of SSN shared between the UK and Australia would include technology from the United States advanced submarine programme. This arrangement would provide for both the futures of the UK SSN programme though increased scale of construction from the 2030s and the new Australian SSN programme from 2040s.

While it has industrial base benefits, the programme is designed to counter increasing Chinese expansionist presence in the Indo-Pacific region. In the interim, therefore, the announcement indicated that both US and UK submarines would forward deploy and eventually operate from the Australian submarine base in Fremantle, Perth, when it was fully prepared for that to occur. This forward basing option is particularly important for the UK submarines who otherwise would expend a significant part of their reactor fuel life in transit to and from that region. As part of the agreement, to fulfil Australia's need for a nuclear-powered submarine until the AUKUS-SSN is operational in the RAN, the US intends to sell Australia a number of Virginia-Class submarines in the 2030s, once Australian personnel and infrastructure are ready.

PROGRAMME CHALLENGES

In order for this ambitious programme to succeed there are two critical components which will require continued collaboration and shared purpose amongst the three nations: expanding Australian knowledge and capabilities, and sustained political and resource commitment.

Firstly, Australian knowledge and capabilities need to be expanded to absorb the maintenance and operation of nuclear-powered submarines. This uplift is needed across all elements of a capability including support capacity, manpower and the support services required by the RAN to maintain significantly more complex units than those to which they are used. In essence they are jumping in at an operating level achieved by the US and UK through decades of experience in the very real and different challenges that a nuclear power plant at sea brings. A significant part of this is the knowledge and mindset of the women and men involved, at sea and ashore.

There were provisions for this in the announcement and Australian personnel will begin to deploy at all elements of the UK and potentially the US submarine programme in order to begin to build this core knowledge and to understand the extent of support infrastructure that will be required in order to base submarines in Australia. The infrastructure will be smaller than that required by the UK and the US because of the peculiar and particular circumstances of the ownership and operation of the reactors.

It is intended that the reactor systems of the AUKUS-SSN (like those already in the Virginia class US SSN) be fully sealed and not subject to any maintenance or upkeep in Australia throughout the submarine's lives. A number of technical capabilities in addition to those required to maintain conventional submarines will form part of the infrastructure uplift in preparation for the arrival of SSN's based in Australia.

SYMBIOSIS AND RELIANCE

The second critical component – political commitment – is maybe more challenging to achieve. It is this which places the AUKUS announcement on a par with the founding of NATO or the 1958 Agreement on nuclear cooperation between the United Kingdom and the United States. This programme will require continuous political commitment throughout the changing cycles of three very different democracies over several decades. That political commitment will need to be matched with equally sustained investment and resource across the submarine enterprises of all three nations to ensure that this ambitious programme succeeds in delivering capable SSN's to the RAN and RN. The agreement bolsters UK submarine enterprise but in doing so adds an Australian investment leg to its support. Should Australia pull out of AUKUS politically at any time in the interim, the result may not be fatal to the UK programme, but its fate is no longer entirely controlled in Whitehall.

The UK in particular has a blemished record in matching ambition to resource in the nuclear enterprise over past decades. As my former shipmate and predecessor in the MoD nuclear policy post, RAdm Philip Mathias, observed in a letter to the Times on 15 March, "the (past) performance of the (UK) Submarine Delivery Agency has been abysmal." Whilst I do not agree with him that AUKUS would be better bilaterally between the United States and Australia, the UK has some heavy lifting to do to make this work. Additionally, the programme will be under constant pressure from competing capabilities in defence, most of which do not have the imprimatur of a

President and two Prime Minister's behind them.

In the United States, the agreement, particularly any sale of SSNs to Australia in the interim period, will need to pass a Congress which is likely to be hostile to any White House project and sustain such support over at least five presidential elections and accompanying Congressional battles. In Australia, the infighting has already commenced with former Labor PM, Paul Keating, savaging the agreement in a heated speech which came very close to Chinese apologism.

NO LOOPHOLE, NO RISK

Of course, China does not like the emergence of AUKUS and in particular the presence of additional adversarial and capable SSNs in the Indo-Pacific region. Their primary push back to date has been through the nuclear Non-Proliferation Treaty as they have determined this is a relatively soft opinion underbelly for western democracies, as any concept of matters nuclear is viewed extremely negatively by a broad swathe of countries who are signatories to the Treaty. For that reason, China has lodged complaints that this agreement transgresses the nuclear non-proliferation treaty and many commentators have spoken ominously about the proliferation risk that it entails. Driven by their own agenda of anti-anything nuclear they risk becoming pawns in China's misinformation and propaganda campaign.

Knowledgeable commentators, such as James Acton of the Carnegie Endowment for International Peace (CEIP), have spoken about a "loophole" in the NPT, that allows such activities to occur, although his later comments have dropped that word.[1] Such language is at best disingenuous. A loophole implies a flaw or a failure in the treaty and the provision within the Treaty allowing countries that operated nuclear powered submarines to continue to do so after signatory was a fundamental element of the treaty to enable it to come into being. In that way it was exactly the same as the allowance in the NPT for nuclear armed states to be formally recognised as such within the treaty, at the time of coming into force. The Treaty would never have been signed in its current format without the provision that fissile material destined for military propulsion purposes in both submarines and surface ships of the navies of signatory nations could be managed outside of the newly created safeguards for peaceful purposes.

The AUKUS partners have gone to considerable lengths with the IAEA and its Director General Grossi, to make clear in that their design and operation programme that the fissile material within the AUKUS SSN reactors presents no proliferation risk. Some commentators have referred to the production of these SSNs as taking this fissile material out of safeguards. This is simply untrue. The fissile material within the national programmes of the UK and United States destined for naval nuclear propulsion are not, and are never required to be, within IAEA safeguards. In this regard the AUKUS submarines are extensions of the UK SSN programme.

Their reactors will be constructed in the UK from the UK's fissile material stock for naval nuclear propulsion, which is held legitimately out of safeguards. The fissile material will remain in the sealed reactor compartment units throughout their lifetime wherever the submarines are serving. During the lifetime of

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[1] Julian Borger, "Aukus Nuclear Submarine Deal Loophole Prompts Proliferation Fears," *The Guardian*, March 14, 2023, sec. World news, https://www.theguardian.com/world/2023/mar/13/aukus-australian-submarine-nuclear-loophole-proliferation-fears.

the submarine the fissile material will be in the most challenging place for proliferation to occur in the entire life cycle of an atom of uranium. It will be contained in fuel plates inside the core of a live reactor inside a welded tight pressure vessel inside a welded and guarded nuclear submarine inside the defence estate of a sovereign nation. It is simply not credible to imagine that the presence of this fissile material in either the current or future two RAN submarine bases presents a proliferation risk. Indeed, the facilities necessary to remove and reprocess to gain access to the material at the end of the core life in the UK are so complex and expensive that it is beyond credible to suggest that such a risk exists.

While the IAEA through its Director General has yet to formally give its judgement on the case that the AUKUS nations have made regarding this fissile material, every indication to date is that this hard-to-please body is satisfied. In many ways the AUKUS programme is an exemplar in how such activities may be conducted and is not therefore exploiting a loophole or opening a breach in the non-proliferation armour of the NPT. But should other nations seek a similar sharing of such technology then it is by the AUKUS example that their non-proliferation risks should be judged. In particular it will be instructive to understand how Brazil is planning to manage its intended nuclear propulsion programme, for that is a nation which does not have a pre-existing nuclear programme (neither weapons nor propulsion) and which seeks therefore to establish in some way such a propulsion programme with an as yet undefined relationship with the NPT and the IAEA. If one were looking for proliferation risks, it is to Brazil the gaze should first turn.

THE REAL RISKS FOR THE NPT COMMUNITY

There are many more nuclear weapon dangers facing the world than this phantom proliferation risk from AUKUS. Indeed, one of them threatens the efficacy of the SSN pillar of AUKUS itself. The United States' programme to reintroduce a submarine launched nuclear-armed cruise missile (SLCM(N)), in essence a new TLAM(Nuclear), strikes at the heart of the challenge which these submarines will pose China. In addition to the SSNs, the AUKUS agreement includes the purchase by Australia of US conventional submarine launched land attack missiles (TLAM). Should the United States go ahead with the development and operational deployment of a nuclear variant of these weapons, since SSNs are invisible and flagless when dived and any SLCM looks like any other, then a launch in the direction of a Chinese target could be misinterpreted. To mitigate the risk of such nuclear miscalculation in a crisis or conventional conflict, SSNs of all three AUKUS nations will be seriously constrained in – or politically prevented from – launching a conventional land attack missile in any direction where such a launch could be misinterpreted by China as a nuclear launch. Such a new SLCM(N) in the US inventory would emasculate the conventional SSN capabilities that AUKUS seeks to enhance, would significantly risk destabilisation in crisis through miscalculation and in reality, adds nothing to US strategic security that is not already in its prodigious arsenal. The success of AUKUS should not be destroyed by such a foolish acquisition. Additionally, China has so far refrained from deploying nuclear cruise missiles; doing so citing an SLCM(N) provocation from US submarines in the Pacific would mark a major strike against any hope of stalling the current incipient nuclear arms race in the Indo-Pacific.

ABOUT THE AUTHOR

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ABOUT APLN

The **Asia-Pacific Leadership Network for Nuclear Non-proliferation and Disarmament (APLN)** is a Seoul-based organization and network of political, military, diplomatic leaders, and experts from across the Asia-Pacific region, working to address global security challenges, with a particular focus on reducing and eliminating nuclear weapons risks. The mission of APLN is to inform and stimulate debate, influence action, and propose policy recommendations designed to address regional security threats, with an emphasis on nuclear and other WMD (weapon of mass destruction) threats, and to do everything possible to achieve a world in which nuclear weapons and other WMDs are contained, diminished, and eventually eliminated.

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