



EXPRESSION OF GRAVE CONCERN

Sir,

I have the honour to provide you with a detailed argument and resolve to the AUKUS agreement and the knee jerk reaction to commit to the Nuclear Proposal.

The Submarine Sea Training Group (SSTG) was formed to train Submarine Crews in all aspects of Safety whilst dived. I have focused my findings based on 500 years of experience and collectively submit the following for your urgent attention and subsequent action.

In September 2021 PM Morrison joined UK PM Johnson and US President Biden to announce that we were scrapping the project to replace the six Collins submarines with a dozen French conventionally powered submarines and would build in Australia at least eight nuclear powered submarines instead, with help from the UK and US. Judging only against what is the best submarine capability for Australia and its geography, the decision to acquire nuclear submarines makes sense. The undoubtedly large cost, long delivery schedule and opportunity costs probably cannot yet be known although a rough order of merit schedule can be determined.

Educated estimates about when our first nuclear submarine might arrive do exist. People in the US submarine business who understand very well what Australia will be required to do before being allowed to operate naval nuclear propulsion suggest it will not be before 2040. The Defence Minister apparently disagrees, reportedly saying he is confident it will all happen much earlier than that. History suggests great care should be exercised before accepting a Ministers' confident predictions, without understanding their basis.

Regardless of when the first SSN enters Australian service, having a real, sustainable operational capability will take longer, as much as a decade or more. In this respect, experience with the Collins class offers many lessons that must be heeded.

The sixth and final Collins commissioned in early 2003, after many problems with the program that were reported widely but not always completely or accurately. Australia eventually overcame all those problems. There are usually problems with any new class of combat hardware, but Collins suffered more than a fair share and tracing those back to their source reveals some major causal factors in Defence. While encountering problems was undoubtedly anticipated, in the case of Collins, two stand out.

The first was realisation in the late 1990s of the need to scrap the combat system. This led to several things including a decision in 2001 to partner with the US on their system, AN/BYG-1. The program to fit all six submarines with the new system ran for well over a decade. There should be no need for Australia to repeat that problem.

The second was sustainment - putting in place a sensible operating and maintenance cycle plus reliable industry capability and arrangements for repair, maintenance, and general upkeep of the submarines, updating and later upgrading their systems. Government's frustration with very poor Collins's availability led to a review by an eminent British expert, Dr John Coles, who's work ran in several rounds from 2011 until 2016. Many problems were identified that can be attributed in some part, if not totally, to Defence management. An important problem arose from the fact that, with no follow-on submarine build program, the Collins' builder (by then a nationalised government business enterprise) had to be transformed into a submarine maintenance company. This sounds like something which should be simple enough, but the reality is anything but. This prolonged the pain and must be avoided in future.

So, taking new submarines and transforming them into an operational capability that is available reliably is a large and complex process that takes time. In the case of Collins, accepting a burden of problems that could have been avoided, it took well over a decade after Navy had six submarines in service. This should not be used as the benchmark for the performance Australia should expect. Rather, it should be a clear example of how badly wrong things can go if the important basics are not properly planned at the start and done right the first time.

The requirements definition (also called the capability development) phase of the project to replace the Collins class started in earnest early in 2009. After several years without much funding or any decisions being made by Government, an acquisition phase eventually kicked off that forecast delivery of the first new French designed submarine in the mid-2030s, at best. This was the forecast at the time the project was cancelled.

The Collins submarines start reaching the end of their original planned lives in the mid-2020s. Like the destroyers, that date was well known. Once again however, as with the destroyers, the new submarine project was kicked off at least ten years later than it should have started if a similar gap was to be avoided. Not only did the project start late, but with cancellation of the French project there is now no clear idea when any improvements to our submarine capability will be made. The last twelve years' effort and expense seem to have been wasted. While much has changed in that time, such that nuclear propulsion is now possible for Australia when in 2009 it was not, a strong case can be made that choosing the French solution was unwise.

Meanwhile, the existing Collins submarine capability must be kept going from their current end of life until something new arrives - a minimum 15 years. Both the submarines *and* the Navy's submariners must be sustained.

Submariners are highly trained and for some positions, like the captain and the chief engineer, it takes a long time - upward of 15 years. The submariners are as critical as the submarines in the capability equations. An analogy is aeroplane pilots. To be a skilled, experienced pilot requires a lot of time flying real aeroplanes. No aeroplanes, no good pilots. Likewise, no submarines, no submariners fit to fight.

So, Australia must keep the Collins submarines running until 2040+ or acquire some new conventional submarines. The fact is that arguably both must be done, or the Collins submarines will be retiring at age 45 and beyond. They will certainly be materially obsolete, worn out and even harder to support by then. It's reasonable to ask whether they would still be safe to operate, let alone whether they should be used in a fight. This would be very poor value for money.

The only conventional submarine it makes any sense to build now would be an evolved Collins design, with only essential updates, many of which would be inescapable. Every other option except this one has been thoroughly researched and dismissed. This is what Australia was advised to do by friends in the first place. Had that been done, even if the project was started late the first new submarine would have been delivered as the oldest Collins arrived at retirement. Industry would also be much better placed to make the transition to building nuclear submarines.

Why didn't Australia do that? The Swedish designers of Collins were refused entry to the competition to replace it so that the most sensible and obvious of solutions was not seriously considered by Defence. One must wonder about the reasons given for that refusal. The Swedish company had been Australia's capability partner through a long, complex, and ultimately successful program. There was some friction to be sure, but that happened mainly during the period when the Swedish company was owned by a company from another country.

Conventional wisdom is that it's much easier to evolve the submarine you have, into which so much effort has been invested, so much learned and that, for the most part was working well, albeit after a challenging start. The competitive process that was undertaken set up a situation where any outcome was going to deliver a new partner that industry had never worked with before and a high-risk design with the longest possible schedule, when Australia could afford neither. Arguably, there should have been no competition at all. One must wonder just how much scrutiny Ministers gave this. The evidence suggests that no one was asking the obvious questions.

Extending the lives of the six Collins submarines is as essential as it is now urgent but preparation to do this work, which will be very complex and time consuming, has only barely begun. With just a few years until the first Collins' certification to dive will expire, only preliminary work has been done on a life extension that will involve very major industrial surgery to the submarines. For some reason the idea of building more submarines seems to

have been completely dismissed even though new submarines evolved from Collins could possibly begin being delivered from 2030 if the project started now.

Getting on urgently the Collins life extension and building more submarines are *both* necessary for sustaining today's submarine capability and preparing industry and Navy for nuclear submarines.



Finally, this paper is submitted with feedback from Senior Chief Petty Officers and Warrant Officers serving and former incumbents of SSTG. Command Element must also be considered which equates to many years more of Command Qualified Officers who served as the Sea Training Coordinators.

I remain Sir, a well-informed Submariner and your immediate attention is requested.

Regards,

Greg Jones

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Former SSTG Deputy Sea Training Coordinator

Annexes

- A) Training Requirements for SSN Officers, Senior Sailors Royal Navy
- B) Collins Life Of Type Extension (LOTE)
- C) Australian Industry and Materials Expansion