



Australia's Future Submarines

Rear-Admiral Rowan Moffitt AO, Head Future Submarines Project spoke to the USI of ACT in Canberra on 16 March 2011

The United Services Institute of the ACT hosted a presentation by RADM Rowan Moffitt AO, Head Future Submarines Project in the Russell Offices R1 Ground Floor Theatre. A synopsis of his presentation is this: the Defence White Paper 2009 plan to double the submarine force with new submarines assembled in South Australia will be a long, expensive undertaking with risk. There should be broad public debate about how to do it for those reasons alone. However, the limited public discussion so far seems to favour a 'least risk' approach because of how the Collins experience is viewed. The Collins program is rich with lessons but by no means are they all negative. There needs to be a national determination to succeed and willingness to keep on when the going gets tough, which it may. Scoping the undertaking realistically will be essential, as will setting a clear vision of what we want to achieve and understanding why. We must know too what won't work for us, and why. SEA 1000 is a bold plan, a game-changing rebalancing of Australia's order of battle. There will be few easy choices, especially since we are starting from a capability that is challenged and has been delivering below expectation. The evening was introduced by Immediate Past President of the USI of ACT, Air Commodore Peter McDermott.



AUSTRALIA'S FUTURE SUBMARINES



I have no role as an apologist for the Collins Class submarines but we can't talk sensibly about future submarines without acknowledging where we are. Today's perceived reality is that the Collins program was less than a shining success. Certainly we did start off with a submarine less capable in some ways than its predecessor, which is not as unusual as you might think – among other

platforms, so was the P3C Orion. What I really mean though, is that it was not successful in public relations terms.

What Australians know about submarines is mostly only what they have taken from the media or movies - because the Navy doesn't say much about submarines. And what you learn in the media is that our Collins Class submarines are "the Dud Subs".

In 2008 I did a study of Submarine Workforce Sustainability for the Chief of Navy, to examine why we were having so much trouble attracting and keeping submariners. In the time I spent looking at that problem, which has been a very serious one for the Navy, I personally spoke to, or heard from many ex-submariners and around three quarters of our serving submariners - of which there are only about 500 by the way.

None of them suggested that the "dud sub" was a significant contributor to the workforce problem that I was investigating. Not one.

They did talk about the submarine - but they didn't talk about it in terms like that. They seem to think the Collins is a pretty capable submarine that has some problems. They're right and the Navy acknowledges the problems. We also know it's rubbish to believe that no one else has as much difficulty with submarines as we do. The fact is that countries who 'do' submarines know that they're difficult - and expensive.



But the view in Australia seems to be that we're the only ones who have difficulty, which proves that our submarines are duds. The fact is that no other country in the world talks so openly about their submarine problems as we do. But that doesn't mean they don't have any. They do. Even the mighty Uncle Sam has problems with his submarines.



And we, the Navy, have failed to convince the public that the "dud subs" reputation is not an

accurate representation of the facts. Now almost all of the problems we have had with the Collins submarines were imported from overseas. None of our problems were caused by Australian workmanship and the bulk of the problems we have relate to design. The problems came from overseas companies, most of which had a great deal of submarine experience.

Finding the solutions to those problems has been up to us. Sometimes we needed help, sometimes we solved the problems by ourselves. But solve them we have. Of course the way we set up the program in the first place contributed to some of these problems arising in the first place, without doubt. In hindsight, we didn't set it up all that well. But then we'd never run such a program ever before. We didn't know what we didn't know and, perhaps arrogantly, it took us a long time to ask for help.

Now, convincing the public of the truth about something when the media has made up its mind is easier said than done. Remember if you can the relentless bagging the Sydney Opera House was given, and the F111 - the greatest Defence sinkhole seen in our history until Collins came along.



There are striking similarities between the F111 and Collins, even though they are from different generations. For a start, both designed for strike, at very long range, to

punch hard, without warning. They are both bombers if you like – offensive systems, that give Australia the ability to attack an enemy a long way away, where and when he least expects to be attacked.

Both are - or were - unique to Australia among medium powers in our region. Both suffered early developmental problems and both were thought to be horrendously expensive to buy and operate.

A key difference was that the wealthy and very experienced US parent of the F111 was able to fix its teething problems while as first-time parents with a problem child, the Collins was up to us.



Collins at sea

My point is that the public perception in Australia about the Collins submarines is probably the elephant in the room.

While the F111 has become so successful that we can hardly bring ourselves to retire it, the Collins experience remains an unmitigated disaster in the public mind.

Making unemotionally the tough decisions we face with the future submarine will be harder in an environment of that sort of overwhelming negativity.



Where to from here?

If you believe that we did an awful job with Collins, it's logical to think that we should avoid at all costs following a similar path next time. It's logical perhaps to think we should buy our next submarine off-the-shelf, from someone who knows what he's doing. Now the submarines that might be available to us off-the-shelf all come from Europe – Spain, Sweden, France or Germany. They are all very good submarines.

They are also export versions of the submarines those countries build for their own navies. For mostly historical reasons those countries still choose to maintain a sovereign national submarine industry and doing that is only possible if they export, because their own markets are too small to make the industry sustainable. All the submarines they offer are considered small, coastal submarines. They are around two thirds the size of Collins. They carry fewer weapons and, very importantly, they have less growth potential (all warships get fat with age).

They also have around half the crew size and capacity to carry people that Collins has. This is very important. Some have long range but they are not designed to go long distances. This map shows you why their designers think the way they do (the overlays are not exactly to scale due mapping constraints).



Map of Europe on Australia

Range and endurance are important for us. And they're different. Range is about fuel capacity. Endurance is about people.

We require our submarines regularly to cross oceans, other conventional submarine operating nations do not. Why? Because we need our key offensive weapon to go very long distances to be able to strike the enemy where and when he least expects it. It's no good having a strategic bomber that can't reach the enemy until he's on your own door step. That's why Collins is half as big again as the European submarines available off-the-shelf. For the Europeans, and for the countries in our region who buy the European submarines, potential enemies are all pretty close.

Let me give you some practical examples of what this means.

Recently a German Navy submarine deployed into the Mediterranean for an exercise, accompanied by a great deal of publicity because of the distances involved. For us that's not even the equivalent of going from Perth to Sydney. We regularly go to Hawaii for exercises – over 8000 miles from our submarine base – the distance from Washington to Athens, or from London to Colombo. And when the Swedes sent one of their submarines to San Diego to train with the US Navy a few years ago, they put it on a heavy

lift ship to get it there. This is not to criticise either submarine – but simply to acknowledge that the 'tyranny of distance' we acknowledge in Australia applies to our submarines too.

You might hear that we could overcome that problem by forward basing the submarines during a conflict and yes, perhaps we could. But can we guarantee that a forward base owned by another nation will be available when we need it? And is a strategy with that sort of vulnerability wise for a key offensive weapon system?

We should remember I think that last time we were involved in a serious maritime conflict in this part of the world, the forward operating bases for submarines were located in Fremantle and Brisbane. The Government's vision for Australia's future submarine demands some serious thought for other reasons too.

For a start, building twelve submarines will probably take us somewhere around 25 years. By the time the last of the twelve is delivered, building a replacement for the first will need to start. We will need sufficient industrial and Commonwealth capability and capacity for such an undertaking and it does not exist today.

A submarine fleet of twelve boats offers us the opportunity to have a sustainable national submarine enterprise, a notion that does seem to be in the Government's mind. As the White Paper says, the Future Submarines Program is to be designed to give the option "to build additional submarines in the 2030s and beyond...". That is, additional to the twelve. Apart from being likely to create over 5000 jobs and engage over a thousand Australian companies, 90% of them small to medium enterprises, the Future Submarines Program may start but not finish. So in reality, this looks like being about much more than just twelve submarines.



Futuristic Submarine

So what are the paths to our objective of replacing the Collins Class submarines with the most capable submarine we are willing to afford?

One option would be to buy something off the shelf – but in my view such a submarine would be unlikely to meet our needs. We could also evolve one of those submarines, including evolving the Collins design. Other countries which more or less continually build submarines evolve their designs gradually over successive batches and classes. None abandons completely what they have, or starts from scratch each time they need to upgrade.

Whether it seems intuitively attractive to evolve the Collins Class submarine or not, it is a real option. For a start, we know Collins better than we know any other submarine, all its warts and all its strengths. And it was designed specifically for Australia's unique and unchanging geographic circumstances.

The third option is to have a new design developed that meets our specific needs. This would probably take longer, may cost more and could involve more risk than the other options.

Whichever option we choose, we will need help.

The public discussion to date seems to be saying that we should just buy off the shelf. There doesn't seem to be much thought about what sort of submarine we actually need.

Given the amount of money involved, as a tax payer, that approach worries me. If careful and thorough investigation shows that what we need is not available off someone else's production line, why would we not try to do it ourselves – assuming the right help was available?

I note with interest that Sweden has maintained a sovereign submarine enterprise over a long period, with a labour force half the size of Australia's, a per-capita income slightly lower than ours and a smaller human development index¹ than us as well. Why would we think it's beyond us? Surely the key driving issue should be our national interest, not a fear of failure.

Whichever pathway we eventually choose to follow, we will make mistakes and experience setbacks – let's not kid ourselves otherwise. But the benefits of succeeding are potentially substantial.

Success in this endeavour will require wholehearted national commitment from the start, as well as setting our sights on the goal at the start and maintaining our resolve until the end. Without that, the risk of a poor outcome will be high. The Future Submarines Program will take some guts if we hope to get something that meets our needs for the money we are prepared to spend.

¹ The UN Human Development Report (1990) introduced a new way of measuring development by combining indicators of life expectancy, educational attainment and income into a composite human development index, the HDI, which serves as a frame of reference for both social and economic development. The HDI sets a minimum and a maximum for each dimension and then shows where each country stands in relation to these goalposts, expressed as a value between 0 and 1. Australia's HDI is 0.97, Sweden's 0.963.



Snowy Scheme

A prominent commentator has said that the Future Submarines Program may be Australia's Snowy Mountains Scheme of the 21st century. There are similarities - the Snowy Mountains Scheme was incredibly challenging. It took around 25 years to complete and we had to import a heap of skilled labour to do it. But we only ever intended to build one Snowy Mountains Scheme.

The Future Submarines Program will probably cost a great deal more than the Snowy Mountain Scheme in same day dollars. Probably it will cost much more too than the controversial Joint Strike Fighter and even the

National Broadband Network. But the expenditure will be spread over some 30 years or more and a very significant proportion of it will go into Australia's economy. Should we be prepared to invest a billion or so dollars a year in ourselves on something like this?

What I think I'm hearing in the current public discussion seems intensely risk averse and it makes me wonder whether we have the will and courage to take on something like the Snowy Mountains Scheme again - or the Sydney Harbour Bridge, or the Sydney Opera House, or designing a yacht that could win the America's Cup, or hosting the best Olympics ever. I really get the sense that this is a program that may be as much or more to do with the character of the nation, than it will have to do with submarines.



Biography:



Rear Admiral Rowan Moffitt, AO, is currently leading the development of the RAN's future submarines project within the Defence Materiel Organisation. He has held this position since February 2009. He has an admirable record of service with the Royal Australian Navy. After a range of command and staff duties, including as ship's captain of both frigates and destroyers, Rowan Moffitt was promoted to Rear Admiral in mid-2002. He was the Deputy Chief of Navy for two years then Maritime Commander Australia, commanding the Royal Australian Navy fleet before taking up the position as the Australian Deputy Chief of Joint Operations, at Headquarters Joint Operations Command. Rear Admiral Moffitt was appointed a Member of the Order of Australia in the Queens Birthday Honours List in 2004 and promoted to become an Officer of the Order of Australia in the Australia Day honours list in 2009 for distinguished service as Maritime Commander Australia and Deputy Chief of Joint Operations.