

# Australia's capabilities versus the Region

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*While the ADF's new KC-30A / KC-330-200 tankers provide better offload than the retired Boeing 707-338C tankers, total fleet offload is still around 25% of actual strategic needs.*

AUSTRALIA'S capability to defend its sovereignty, protect its territorial integrity, and contribute to any coalition operations within the region or on the global stage, depends primarily on the ADF force structure available at the time of any contingency. Since 2001 the Australian Department of Defence has pursued a specific investment policy in force structure, reflected in a current and planned ADF force structure, which is optimised for either distant coalition COIN campaigns or minor unopposed or lightly opposed regional interventions on the scale of the 1999 INTERFET effort in East Timor. The strategic changes now observed in the Asia-Pacific and Indian Ocean regions present fundamentally different capability needs to those for which Australian Defence planning has been prioritized for more than a decade.

The divergence between current and future strategic capability needs within the region has been the subject of many a parliamentary submission and editorial since 2003 (Refer: <http://www.ausairpower.net/SR-ADF-2003-Rationale.pdf>). Any capability assessment performed now typically shows similar if not the same disparities as assessments of a decade ago. The principal difference is that a decade ago capability gaps and shortfalls were projected, but now they are real and observable outcomes.

During the Cold War United States and NATO force structure planning was simplified by the existence of a single opponent, the Soviet Bloc, which used highly standardised equipment with mostly well understood capabilities. Intent was overt and stated: the destruction of Western civilisation. Planning amounted to a deliberate process of countering specific known capabilities in specific and well studied contingencies.

In Australia, force structuring planning was different, insofar as most period planning was oriented toward deterring the Suharto regime in Jakarta; also addressing modest period Alliance expectations in the provision of frontline assets to be used in any major NATO-Warpac contingency. With these agendas, planning was systematic.

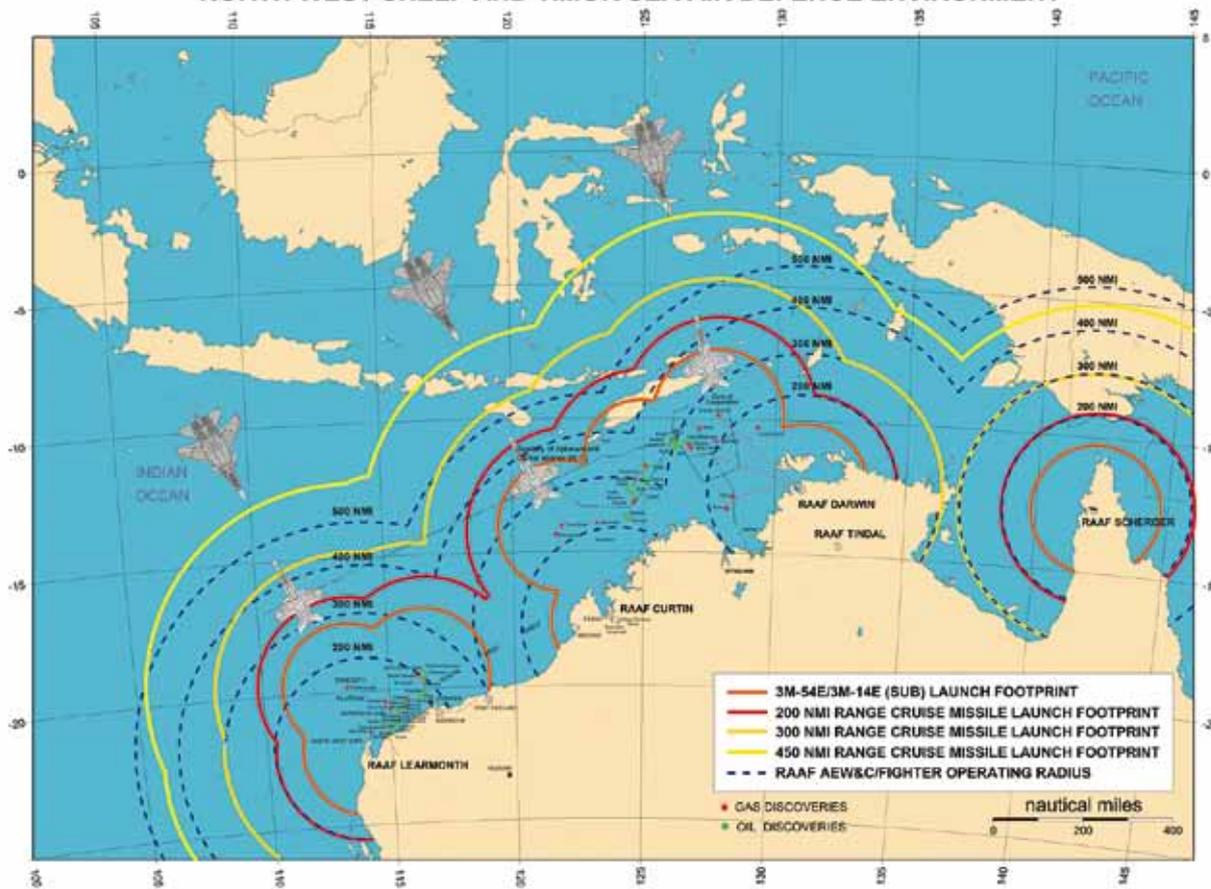
Post 1999, with the demise of the Suharto regime, force structure planning in Australia became an ad hoc process. Addressing arbitrary short term needs or wishes became paramount; and systematic long term planning, as per the internal capability development processes, was essentially abandoned. What presented as compelling

needs or wishes appeared to reflect personal preferences of the senior Defence officials of the day, or immediate vendor marketing campaigns. Vendor marketing Powerpoints seemed to elevate compared with traditional modelling and analysis, reflected in a vast volume of public statements and parliamentary evidence, which more than often read like marketing literature on vendor websites. While this vendor-driven approach to capability planning is expensive and problematic; more importantly, it is strategically dangerous, since it results in the vendor's preference in products, which are usually profit driven. The desire for such products was often elevated above national interest or strategic needs.

## 21ST CENTURY STRATEGIC CAPABILITY NEEDS

The current arms race across Asia has transformed Australia's strategic environment in a manner not known since the 1940s. The principal focal points in regional capability growth have been in air power and sea power, reflecting the same geostrategic realities that produced the air power and naval power intensive battles of the World War II period. The most prominent change across Asia has been the proliferation of modern longer ranging combat aircraft, precision guided munitions, and submarines. It matters not whether the opponent in a future conflict is China or any of the lesser nations in Asia, as the principal capabilities Australia would have to deal with are largely the same: modern long range high performance tactical fighters

## NORTH WEST SHELF AND TIMOR SEA AIR DEFENCE ENVIRONMENT



armed with a wide range of smart munitions, and submarines armed with smart torpedoes, and increasingly, cruise missiles. The only dimension China brings to the equation is larger numbers, plus ballistic missiles and nuclear weapons. Over this decade another capability will appear across Asia – exported Russian built stealth fighters, and likely also exported Chinese built stealth fighters. A major factor that must be addressed in planning is the reach of weapon systems now widely deployed across Asia. Two decades ago the only aircraft in this region that could cross the sea-air gap to Australia's north unrefuelled was the F-111. Today any number of Sukhoi Flanker variants can do almost as well, and the new Sukhoi T-50 PAK-FA and Chengdu J-20 will do even better. Whether the ADF is to participate in a major conflict in Asia, regardless of the specific opponent, or whether it is to defend the sea-air gap in a lesser contingency, it can only survive and perform effectively if it is structured to defeat modern long range high performance tactical fighters armed with a wide range of smart munitions, submarines armed with smart torpedoes, and increasingly, cruise missiles, whether subsonic, supersonic,

submarine or air launched. This is an unavoidable reality, but also a reality seemingly not yet accepted by Canberra defence planners, and almost all of the media commentariat. Defeating this category of threat capability can be done through 'attack at source', by destroying basing and threat platforms located at basing, or by destroying the threat platform while it is operating, as they close on their targets. In practice, none of these three solutions are perfect, and the rational approach tends to be in attempting all three if possible. The 'three layered approach' is that if the platform cannot be destroyed in the basing, it is hunted and engaged while operating, and if it can launch its smart munitions, these will be shot down. Dealing with a sophisticated PGM armed submarine by attacking its basing requires a strategic strike capability capable of surviving defences and delivering sufficient weight of munitions to destroy the target. If this is unsuccessful the submarine must be hunted down using LRMP aircraft and/or ASW helicopters, or attack submarines and surface warships with ASW capabilities.

Dealing with hostile air power imposes analogous but different requirements. Attacking basing also requires a strategic strike capability capable of surviving defences and delivering sufficient weight of munitions to destroy the target, which like submarines may be parked under metres of reinforced concrete. If this fails, ISR must be used to find the target, and high performance stealth fighters used to kill it. If it launches its PGMs, these need to be acquired and killed. Much of the current defence investment in Asia is centred on these two conceptual models – especially reflected in buys of quiet submarines, ASW platforms, long range fighters and AEW&C aircraft, along with advanced PGMs and cruise missiles.

### CURRENT PLANNED ADF CAPABILITIES PACKAGE

Current planning for future ASW capabilities is yet to be resolved in key areas, such as the choice of a future submarine type. The new ASW helicopters are a good fit, and the intended P-8A Poseidon and MQ-4C BAMS Global Hawk are also good



Enhanced ASW capabilities will be important in coming decades.



The Canberra class LHDs have significant potential to perform as ASW helicopter carriers if suitably adapted. Depicted a US Navy SH-60R Sea Hawk.



The Juan Carlos I LHD on sea trials.



Boeing Wedgetail AEW&C.

“ The notion that the United States will be able to plug all and any ADF capability gaps was at best dubious a decade ago, and given the downsizing of the US force structure currently in progress, qualifies at best as fantasy now. ”

additions, subject to deployed numbers. The two new Canberra class LHDs could be adapted for use as ASW helicopter carriers, a model used by a number of navies already, and one which would not preclude their use otherwise as amphibious ships. One major weakness in the ADF force structure is the limited number of weapon systems specifically built to kill supersonic cruise missiles and other PGMs. This presents as a critical issue for keeping ASW surface ships alive in contested waters, and keeping airbases hosting LRMP assets alive. At this time the only capability the ADF has is the X-band AESA package and ESSM being retrofitted to the ANZAC frigates. This is a capability that must be fitted to all surface ships of substance, including the LHDs. The long range high altitude S-band SPY-1 Aegis system is not optimised to stop saturation sea-skimming cruise missile attacks and would need to be supplemented. This deficiency in capabilities is no different to that which almost cost the British the 1982 Falklands campaign, when the opponent used dumb bombs and a handful of mediocre early model Exocets. The lack of proper and widely deployed ASMD (Anti-Ship Missile Defence) systems capable of handling saturation supersonic cruise missile attacks is a facet of a wider deficiency across the ADF force structure, as the ADF lacks an analogous capability to provide terminal cruise missile defences for deployed Army formations, RAAF basing, and critical national infrastructure. It is implicitly assumed that an opponent either lacks supersonic cruise missile capability, or that ADF fighter and ASW assets would always stop the launch platform. This is a remarkable assumption given that even Indonesia recently test fired a supersonic Yakhont/Brahmos cruise missile. The capability to deploy surface and airborne ASW assets, be they ships or aircraft, is predicated on the assumption that the airspace can be defended reliably against hostile aircraft armed with PGMs, be they cruise missiles or guided bombs. The ADF's two best capabilities in air defence are the JORN (Jindalee) Over-The-Horizon-Backscatter HF band radar, and the six Boeing 'Wedgetail' AEW&C systems, but these are not without limitations. JORN is susceptible to variations in ionospheric weather, resulting in blind periods, and will provide limited capabilities against small cruise missiles.

The 'Wedgetail' AEW&C has a modern L-band AESA radar, which is highly effective against conventional aircraft and cruise missiles, but will suffer reduced effectiveness against stealth aircraft such as the T-50 PAK-FA and J-20, even if vastly more effective than the S-band radars carried by most AEW&C and AWACS systems. There is some potential, by adapting MESA software, to increase 'Wedgetail' performance against stealthy targets by increasing dwell time in searches, but this in turn reduces update rates. Six aircraft permit at best two 24/7 orbits, with spares, which would not be sufficient for any contingencies other than the most trivial in scope. The advent of genuine stealth aircraft in Asia raises the broader question of specialised ISR capabilities to detect and track such. While Russia and China have heavily invested in VHF radars for this purpose, the US and EU, both beset with budgetary troubles, have yet to initiate corresponding programs. This problem has not been addressed in any fashion in ADF planning, or even rhetoric. No differently, fighter capabilities intended to defeat, or even survive modern threats such as the T-50 PAK-FA and Chengdu J-20, have not been addressed in planning. Statements by senior Defence officials in parliamentary hearings have been at best vague, and largely qualified by appeals to authority. The notion that battlefield interdiction aircraft can survive in combat against F-22 analogues, let alone defeat them, is an idea that stretches credulity.

Current planned aerial refuelling capabilities provide for around 25 per cent of the actual capability needed, using any number of standard benchmarks or models. What is abundantly clear is that Australia's extant force structure planning is largely mired in the distant past, and in the critical domain of air power, ill adapted to the regional environment of this decade, let alone the coming two decades. A decade of public debate in Australia, and more recent debate in the United States, on this matter has yielded no changes in Defence thinking on this subject. Australia has clearly pursued a self-indulgent approach to strategic force structure planning for a decade, and invested far too often on an entirely ad hoc basis, rather than to a carefully considered analytically robust plan centred in thorough technical analysis of regional capabilities. The notion that the United States will be able to plug all and any ADF capability gaps was at best dubious a decade ago, and given the downsizing of the US force structure currently in progress, qualifies at best as fantasy now. Nevertheless, this assumption lies at the heart of most current planning for the future of the ADF. Australia does not have another decade of time to squander in making ad hoc choices, nor will it have the kind of budgetary surpluses in coming decades to replace most of the ADF force structure at short notice, when it is found to be wanting.



At this time there are no planning measures for the ADF to deal with advanced non-US stealth aircraft which will be operational in the region well before 2020.