Northern Territory Government Submission to the Senate Foreign Affairs, Defence and Trade References Committee Inquiry into the potential use by the Australian Defence Force of unmanned air, maritime and land platforms

February 2015

KEY RECOMMENDATIONS

- Consideration to be given to the strategic, economic and cost benefits of basing, operating and maintaining Defence Unmanned Aerial Vehicles in the Northern Territory.

- The solution for Defence Project Air 7000 Ph1B (Northrop Grumman MQ-4C Triton unmanned aerial platform) should be based, operated and preferably maintained at RAAF Base Tindal.

- In the event that other unmanned aerial platforms are selected for military or civilian border protection use in Northern Australia, they should be based, operated and preferably maintained in the Northern Territory.

Inquiry into the potential use by the Australian Defence Force of unmanned air, maritime and land platforms.

Introduction

The Northern Territory Government welcomes the opportunity to contribute to the inquiry into the potential use of unmanned systems by the Australian Defence Force (ADF). With the current strong focus on developing the north, the recent resource boom in the area and the significant Defence presence already in the Northern Territory, the Northern Territory Government believes that there are a number of critical issues that this senate inquiry should consider in relation to the basing, operation and support of Defence unmanned platforms. This is particularly so for unmanned aerial systems which this submission will focus on.

Darwin is closer to other countries than it is to the nation's capital. It is also closer to many large population bases throughout the strong growing economies of South-East Asia than any other city centre on Australian soil. Darwin has played a significant role as an operations gateway following the East Timor crisis and the Bali bombing. Darwin is also approximately 300kms or a short flight away from RAAF Base Tindal from where a full squadron of F/A-18 Classic Hornet fighters operate.

The Northern Territory is a vibrant Defence and family friendly location. The community is resilient, welcoming and united in its support for Defence, Defence personnel and Defence families.

With this in mind, this Northern Territory Government submission provides comment on Terms of Reference:

(a) the role of Unmanned Aircraft Systems (UAS) in intelligence, reconnaissance and surveillance operations, including in support of border security, civil emergencies and regional cooperation, and
(g) transport, health and air safety implications.

Response to Terms of Reference:

(a) The role of UAS in intelligence, reconnaissance and surveillance operations, including in support of border security, civil emergencies and regional cooperation.

This is a national security role in which the Northern Territory potentially has a major role as an operating and support base for a variety of UAS which are likely to be used for border and Exclusive Economic Zone security.

The Northern Territory understands that concepts are being developed internationally for a layered approach to the use of UAS for border and Exclusive Economic Zone protection, the defence-related layers including:

High Altitude, Long Endurance (HALE) UAS

This category of UAS provides persistent long distance, wide area surveillance and would be capable of monitoring maritime movements throughout the entire Australian arc of interest. In the case of the ADF, the role will be filled by the Northrop Grumman Triton intent to purchase announced by the Prime Minister in 2014. Basing the Triton at RAAF Tindal would extend the useable range and endurance, providing more efficient use of the relatively small number of Tritons to be purchased.

Regional cooperation with the USN is anticipated as it will be operating Tritons in the Broad Area Maritime Surveillance role in the Pacific and Indian Oceans. Given the increased presence of US assets in the Northern Territory, co-operative support of USN Triton may be a possibility.

Medium Altitude, Long Endurance (MALE) UAS

This category of UAS provides intermediate distance maritime and overland surveillance. The AAI Heron was used in this role on a leased basis in Afghanistan.

With the announcement by the then Minister for Defence that the Heron MALE will be retained for a further five years, it is a suitable platform to be used for border and Exclusive Economic Zone protection operations off Northern Australia, with Darwin and/or Tindal as logical operating bases.

Tactical UAS (TUAS)

This category of UAS is used for shorter range and endurance reconnaissance, and the ADF has Shadow 200 UAS. Having been withdrawn from Afghanistan, these may be used increasingly in exercises and operations with Army assets located at Robertson Barracks.

As Shadow 200 is the US Army's primary TUAS, regional cooperation opportunities are again possible.

Small Tactical UAS (STUAS)

Unlike the larger UAS, the Small Tactical UAS are runway independent with mobile launch and retrieval systems. While none are currently in the ADF inventory, the Insitu Scan Eagle has been used previously and the Aerosonde is used by the US Forces. STUAS have potential not only for expeditionary land based operations as in Afghanistan, but also for shipboard operations on vessels as small as the Armidale Class Patrol Boats primarily stationed at HMAS Coonawarra, Darwin.

Regional cooperation with the US is again possible, and both Aerosonde and Scan Eagle are used by US Marine Corp (USMC) and Special Operations Command (SOCOM) units likely to rotate or exercise in the Northern Territory.

Small UAS (SUAS)

The recent announcement of the purchase of Aerovironment Raven SUAS for the Australian Army provides a small, hand launch, short duration UAS for a small Army section to use, aligning it with US forces. Ravens have already been used by the US Army on joint exercises in Northern Australia.

Civil Emergency Applications

Virtually all categories of UAS have applications for civil emergencies. The Aerosonde STUAS has already demonstrated an ability to fly into hurricanes and cyclones to provide more accurate measurement of conditions, and Global Hawks (similar to Tritons) have been used for high altitude monitoring of similar extreme weather.

Darwin would be a logical base for extreme weather monitoring during the monsoon season, including the ability to transit expeditionary STUAS systems to regional nations as they are threatened by extreme weather.

The potential for using UAS as an adjunct to manned aircraft in bushfire monitoring is under active testing in Australia. Most categories of UAS have the ability to undertake damage assessment after civil emergencies. The basing of Defence UAS in the Northern Territory could provide a timely surveillance and support capability in emergencies across northern Australia.

National Infrastructure Protection and Monitoring

Although not specifically mentioned in the Terms of Reference, an increasing international use of UAS is to monitor the areas surrounding offshore assets such as oil and gas platforms as well as carrying out real time video inspections of possible damage after extreme weather events.

Darwin would be a logical focal point for support of such UAS operations in Northern Australian waters.

Civil Exclusive Economic Zone Applications

Although not specifically mentioned in the Terms of Reference, Small Tactical UAS such as Aerosonde are being trialled by Pacific Nations for use in patrolling Exclusive Economic Zone to detect and prevent illegal fishing, working in cooperation with Pacific Patrol Boats provided by Australia under Defence Cooperation.

With new Generation Pacific Patrol Boats being planned, an integrated surveillance package of vessels and UAS is an option, and the vessel/UAS interfaces could be common to those for RAN Patrol Boats.

Response to Terms of Reference:

(g) Transport, health and air safety implications.

Regarding transport of UAS and associated systems, no issues are seen in bringing UAS to the Northern Territory either on permanent or temporary basing. The HALE Triton would self-deploy; the RAAF is already experienced in transporting MALE Heron and TUAS Shadow 200; STUAS such as Aerosonde and Scan Eagle have already been deployed using civil airlines.

Regarding air safety, the Northern Territory is aware of cooperative activity between CASA and civil UAS operators to obtain approvals for UAS operations in the Northern Territory. This is facilitated by the comparatively low air traffic density in most areas of the Territory and well developed military/civil air traffic interaction and control.

Strategic location of the NT

The strategic importance of the Northern Territory to Defence is continuing to grow. The findings of the 2011 ADF Posture Review confirm the Northern Territory's long-term significance and strategic importance to Defence and reflect a greater focus on the north. The growth in the resources sector in Northern Australia, resulting in significant oil and gas infrastructure assets in the region, further reinforce this strategic importance.

The Northern Territory, Western Australia and the Joint Petroleum Development Area (JPDA) represent over 80 percent of Australia's oil and gas production. The annual value of oil and gas exports in the north-west of Australia is over $18 billion. This is expected to more than double to in excess of $40 billion by 2020. LNG alone currently represents over $9 billion of annual production and will be the biggest contributor to growth in the region.

Protection of Australian offshore fishing, oil and gas interests and the northern Australian offshore territories of Christmas and Cocas (Keeling) Islands is essential to Australia's national interests. As a major LNG and transport hub, the top half of the Northern Territory is the logical place to position assets for the ADF to implement border security requirements.

The flight time to the majority of the north-west oil and gas resources is shorter from Darwin and Tindal than from any other established major centre.

A special report recently released by the Sir Richard Williams Foundation titled; "Protecting Australia with UAS" made the observation that:

"In the short term, the major threat to Australia's sovereignty and national interests in the near region is people attempting to enter Australia illegally through north western and north-eastern waters. Current surveillance arrangements in the north struggle to

provide sufficient clarity to detect, identify and track all small vessels and groups of people with images that can be submitted as evidence in court."

The Northern Territory currently hosts a significant portion of the nation's border protection assets contained within Border Protection Command (BPC). The ADF elements of BPC are commanded from Northern Command in Darwin on behalf of Commander Border Protection Command. The majority of the Armidale Class Patrol Boats operate from HMAS Coonawarra in the NT and RAAF Darwin is the forward operating base for the P3C Orion maritime patrol aircraft. These aircraft are soon to be replaced with the new P8 Poseidon which will continue to provide border protection operations from the Northern Territory from 2019.

A Squadron of F/A-18 Hornets is located at RAAF Tindal, which will be replaced by a squadron of the multi-role F35 Joint Strike Fighters at the end of the decade. The base is of strategic importance to Defence and significant economic importance to the town of Katherine, with Defence personnel and their dependants making up approximately 25 percent of the town's population.

There is therefore a strong strategic argument for future Defence UAS which have an area of operations in northern Australia, including the Northrop Grumman MQ-4C Triton unmanned aerial platform selected as the solution for Project Air 7000 Ph 1B, to be based, operated, and preferably maintained, at RAAF Tindal. Further, any other unmanned aerial platform providing border protection, whether that be an armed or unarmed variant, military or non-military, should be based and operated from the Northern Territory. This will enable the operation of these platforms to dovetail into the existing holistic border protection operations.

Operational and resource implications

The top end of the Northern Territory is strategically located adjacent to the primary operating environment for border protection activities. Compared with other potential basing locations such as RAAF Edinburgh or RAAF Amberley, unmanned aerial platforms based at RAAF Darwin and RAAF Tindal enjoy a distinct advantage in reduced flight times to the areas of operations in northern Australia and beyond. This in turn results in an unmanned aerial platform remaining on task for a significantly longer period of time before having to return to base for refuelling. This increase in operational effectiveness could be in the order of 7-8 hours longer on task compared with an unmanned platform that has a return journey to a southern Defence base.

There are significant resource savings in basing unmanned aerial platforms in the top end of the Northern Territory. The reduced flight times to and from the area of operations translates into decreased fuel usage and therefore increased operational reach, efficiency and resource savings. These savings are further increased by the reduction in servicing and maintenance costs as a result of reduced flight times and fewer hours placed on the airframes.

Air safety implications and perceptions

One of the ongoing issues associated with operating unmanned aerial platforms is the public perception of safety associated with the use of those systems. In particular, the general public have concerns with the likelihood of unmanned aerial platforms colliding with commercial or other military aircraft over populated areas. Basing such systems in the Northern Territory, particularly at RAAF Base Tindal, where population centres are small and there are vast remote areas between those centres, is likely to attract far less adverse public concern than in the major population centres such as Adelaide and Brisbane.

The Civil Aviation Safety Authority (CASA) is charged with ensuring the safety of aircraft crew and passengers as well as those persons working and living on the ground below any operations by unmanned aerial platforms. As part of that charter, CASA is currently working closely with the International Civil Aviation Organization (ICAO) and other international bodies to update Australia's regulatory framework. It is expected that when CASA is considering the future operation of unmanned aerial platforms, approval processes will be less complex for platforms operating in the Northern Territory, particularly in the Katherine/Tindal region, where pockets of controlled airspace are far less prevalent and considerably more dispersed than in other more heavily populated regions of Australia.

Aerospace industrial support in the North

The Northern Territory has a strong, highly skilled and proactive Defence support industry, with flexibility based on a number of synergies with the resources sector in the region. Whilst the number of businesses operating in the aerospace sector is relatively low, there are several businesses performing servicing and maintenance on commercial and military aircraft operating in a border protection role in the Northern Territory – such as Cobham Aviation and Airbus Group Australia Pacific (formerly Australian Aerospace).

The increasing activity in northern Australia will likely see more UAVs operating in support of emergency services, pastoralists, land management agencies and utility operators (pipelines, powerlines, roads and rail infrastructure).

Should a decision be made to base and operate military unmanned aerial platforms from the Northern Territory, it may create a critical mass in relation to aerospace through life support and maintenance and attract new prime contractors into Katherine or Darwin. This in turn will provide a significant opportunity to the ADF and other operators of border protection aircraft as it will enable a more competitive market for aircraft maintenance activities with a greater depth of capability available.

Further Information

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