

DEFENCE SUBMISSION TO PARLIAMENTARY INQUIRY ON DEVELOPING NORTHERN AUSTRALIA

I. Introduction: Northern Australia and Australia's Defence

1. The Government has directed that a Developing Northern Australia White Paper be produced by September 2014 setting out policies and implementation plans for developing the region (defined for the purposes of the Developing Northern Australia White Paper as the area north of or proximate to the Tropic of Capricorn, including Alice Springs) out to 2030. Defence welcomes the opportunity to work with the Joint Select Committee on Northern Australia to outline the strategic importance of Northern Australia.
2. Northern Australia has particular strategic importance for our entire nation, because most credible military threats to Australia would come from north of Australia. It is also economically important, owing to its offshore energy resources and also land-based mineral resources. As a matter of sovereignty, it is also a Government priority to be able to demonstrate control of Northern Australia and the northern part of our Exclusive Economic Zone (EEZ). Presence and the ability to support operations from Northern Australia are core elements of demonstrating that control.
3. Defence has always been a major contributor to Northern Australia; but there are limitations to Defence's presence and activities in the north that need to be understood in addressing Australia's long-term strategic objectives. These challenges include attracting and retaining skilled industry and labour, higher costs, availability of and access to public and private infrastructure and competition for land and facilities due to development and competing uses.
4. Defence's intention with this submission is to highlight Defence's presence and activities in Northern Australia. These considerations include Australia's strategic interests and the growing importance of defence and security relationships in our region, and Northern Australia's role in how these interests are pursued.
5. This submission will outline Defence's current and planned activity and presence, lessons learned to date, and the strategic considerations to complement the economic and social issues that we expect will also feature in the Committee's work. Defence recognises that development of Northern Australia can meet strategic, economic and social ends, and would welcome prioritisation of development that meets more than one of these ends.

Significance of the Region to Defence

6. The maritime and air approaches of Northern Australia mean it has long been a platform for hosting and enabling our defence engagement into our region. During World War II, Darwin was a critical hub in the Pacific campaign and experienced attacks. Since World War II, the increasing strategic positioning of Australian Defence Force (ADF) facilities and personnel in Northern Australia – as well as improvements in Defence's ability to rapidly deploy forces from southern bases to northern bare bases – has recognised that being able to project and sustain forces from Northern Australia is key to defending Australia.
7. Our maritime environment connects us to Asia and the global economy, so maintaining and enhancing our access to this maritime environment is critical to our military strategy and to Defence posture. Recently, the Defence presence in Northern Australia has proved vital to Australia's assistance missions in Timor-Leste, Solomon Islands, Aceh and the Philippines in 2013 after Typhoon Haiyan.

8. Defence has a long history of deep investment in Northern Australia¹ and strong relationships with local communities. Across Queensland, the Northern Territory and Western Australia, there are more than 15,200 Defence personnel (ADF and public service) serving in Northern Australia. A map showing the location of key Defence bases and sites in Northern Australia is at [Attachment A](#).
9. The nature and level of Defence presence and activity varies significantly across Northern Australia. This reflects the particular characteristics of Northern Australia itself as well as the continued evolution of Defence's presence over time in recognition of Australia's changing strategic circumstances. Major differences are noted where practicable in this submission, with a more detailed description on a region-by-region basis available at [Attachment B](#).

Future directions

10. The changes underway in the Indo-Pacific region only heighten Northern Australia's strategic importance. The world's economic and strategic centre of gravity is moving to Asia. Regional states like Indonesia are undergoing significant economic development and gaining greater regional influence. Economic growth in South-East Asia brings opportunities for Australia, including more capable defence partners with whom we can deepen and broaden the range of cooperative defence activities in support of regional security.
11. As part of responding to and shaping Australia's strategic environment, Defence is increasing the ADF presence and its visibility in Northern Australia and enhancing cooperation with allies and partners. As part of the United States' rebalance to the Asia-Pacific under the US Force Posture initiatives agreed between the Australian and United States Governments, up to 2,500 US Marines will be deployed on a rotational basis in Darwin and US Air Force aircraft will increase their visits to bases in Northern Australia. Increased naval cooperation is also being explored. This enhanced level of activity with our closest ally will bring benefits for Northern Australia.
12. The Government's 2015 Defence White Paper will align Australia's defence policy with a clear military strategy and an affordable, properly funded ADF structure designed to achieve that policy. The Government's considerations within the Defence White Paper process will include the level and disposition of the ADF presence in Northern Australia. It will also take account of the recommendations from the 2012 ADF Posture Review that are being implemented by Defence.

II. Current Defence Activity and Presence in Northern Australia

13. The Defence presence in Northern Australia reflects in part historical factors but also Australia's current strategic circumstances and the continuing advantages of this area to the effective delivery of Defence operations, training and exercises.
14. Northern Australia is at the centre of our maritime strategy of manoeuvre, power projection and layered defence in Australia's northern approaches, supported by bases and facilities in the south. It is critical to the mounting of operations from Australia into the South Pacific, South-East Asia and the Indian Ocean regions. This includes surveillance, humanitarian assistance and disaster relief, and stabilisation operations. Northern Australia is also key to our active defence posture in signalling our capability and intent to defend Australia and its interests.

Overview

¹ For the purposes of this submission, "Northern Australia" is taken to mean north of or reasonably proximate to the Tropic of Capricorn, plus Alice Springs (given its significance as a major service centre for the north).

15. Key aspects of the Defence presence in Northern Australia are:

- a. Defence operates from bases in Northern Australia to support Operation RESOLUTE and Operation SOVEREIGN BORDERS in conjunction with the Australian Customs and Border Protection Service (ACBPS). The ADF also mounts surveillance operations from Northern Australia in support of Operation SOLANIA² and Operation GATEWAY.³ Defence's most significant multinational exercises in Australia, TALISMAN SABRE, KAKADU and PITCH BLACK, are all conducted from bases in Northern Australia, as is Army's annual Exercise HAMEL.
- b. Defence bases, facilities and training areas span Western Australia, Northern Territory and Queensland.⁴
 - i) Defence owns a total of ninety eight properties in Northern Australia: eighteen in Western Australia, twenty nine in the Northern Territory and fifty one in Queensland, with properties ranging in size from less than one hectare to the approximately 871,000 hectares of the Bradshaw Field Training Area in the Northern Territory.
 - ii) Defence leases ten sites in Western Australia, twenty four sites in the Northern Territory and one hundred and sixty six sites in Queensland.
 - iii) Defence also has non-exclusive rights over designated offshore exercise areas near Darwin, Cairns and Learmonth, and can activate Defence Practice Areas within them through public notification.
- c. Defence currently employs more than 15,200 people in Northern Australia across the Navy, Army, Air Force and Australian Public Service,⁵ with transitory increases in the number of ADF personnel in support of operations, exercises and surveillance. This represents approximately 15% of the ADO workforce, and almost one in five ADF personnel.
 - i) Further, the broader Defence community – including spouses and dependent children – has a more pronounced impact in Northern Australia than in the south. For example, the Defence community comprises approximately 12,000 people in Darwin,⁶ or 10% of the Darwin population, with 7.9% of Darwin's workforce employed by Defence.⁷ Their spending has a multiplier effect on the local economy.

² The ADF contribution to maritime surveillance within the Pacific region to detect and deter illegal, unregulated and unreported fishing activity.

³ Australia's enduring contribution to the preservation of regional security and stability in South East Asia. This includes maritime surveillance patrols in the North Indian Ocean and South China Sea, with ADF assets tasked periodically from northern Australia.

⁴ Major Defence bases in northern Australia include Navy bases in Darwin and Cairns (HMAS Coonawarra and HMAS Cairns), Army bases in Townsville and Darwin (Lavarack Barracks, Larrakeyah and Robertson Barracks), and Air Force bases in Darwin, Katherine and Townsville (RAAF Darwin, RAAF Tindal and RAAF Townsville) and bare bases in Learmonth, Curtin and Weipa. The Joint Defence Facility Pine Gap, an Australia-US Joint Facility, is also located within the region.

⁵ As at 31 December 2013, 15,287 people were directly employed by Defence in Northern Australia and Alice Springs, comprising 1,970 Navy personnel, 10,672 Army personnel, 1,842 Air Force personnel and 803 APS staff. This includes 2,596 reserve and continuous full-time service (CFTS) ADF personnel.

⁶ Welters, R (2013) *The Australian Defence Organisation and Tropical Australia: its Socio-Economic Impact in Cairns, Darwin and Townsville* Cairns: James Cook University, 19. Note: the Defence community is ADF, APS and their families. It does not include contracted personnel.

⁷ Australian Bureau of Statistics, 2011.

- d. ADF exercises and activities conducted in Northern Australia cross all three Services and are a mix of field training and live fire activities. The majority of the exercises are Australian only; however, there are a growing number of exercises that include other countries, including the US, Singapore and Indonesia.
 - e. Two-thirds of the Army's combat power is positioned in Northern Australia, and the majority of all training activities occur there.
 - f. Defence is heavily involved with communities in Northern Australia, including through the Defence Indigenous Development Program and the Regional Force Surveillance Units (RFSU).
 - g. Defence also maintains preparedness for a wide range of contingencies in Northern Australia, including assistance to communities during extreme disaster events.
 - h. As part of the US rebalance to the Asia-Pacific, the force posture initiatives agreed between the US and Australia involve rotational deployments of US Marines and increased US aircraft rotations in Northern Australia.
16. In addition to full-time ('regular') Defence personnel, the Reserve component is an integral part of ADF capability in Northern Australia. Examples of this in Northern Australia include the routine use of Army Reserve force elements employed in RFSU in the Pilbara, Kimberleys, Arnhem, Cape York and Torres Strait regions, as well as Army Reserve Transit Security Element teams and Naval Reserve personnel on Navy vessels and in support of the Government's border protection initiatives.

Base locations

17. Defence's current base profile for the ADF reflects a balance between:
- a. strategic factors which recognise that projecting forces from the north is the best way to meet potential operational requirements in credible scenarios, albeit with strategic depth (meaning not all forces should be positioned forward); and
 - b. population and industry support factors tending to favour a south and southeast disposition.
18. Defence bases in Northern Australia are located sufficiently close to key infrastructure such as ports and airfields to allow the efficient mounting of operations and exercises and the approaches to the continent if required. The ADF is also primarily based in large population centres near industry support vital to generating and sustaining military capability. Defence's training areas in Northern Australia are more remote and expansive, providing training opportunities in a variety of challenging environments.
19. The 2012 Australian Defence Force Posture Review assessed that Australia's current strategic environment did not necessitate widespread changes in the location of ADF bases, but that upgrades to some bases and training areas would be required to support future needs. The current Government supported the Defence implementation of the ADFPR and has stated that it will consider a greater ADF presence in Northern Australia, especially in resource-rich areas with little or no current military presence, as part of the 2015 Defence White Paper process.

III. How Defence activity and presence benefits Northern Australia

Security benefits

20. Defence's presence in Northern Australia is fundamental to deterring and defeating attacks.. Our current posture and demonstrated ability to operate in the north of Australia and in the approaches to the continent – including through rapid deployment of forces

from bases in the south to bases in the north – provides a significant deterrent to the emergence of possible threats.

21. Defence presence in the north further supports national security through:
- a. Assuring a more rapid response time for contingencies to our north.
 - b. Enabling ADF and broader Defence presence in the region through exercising and patrolling to demonstrate security commitment to international partners, the Australian community and industry, including critical infrastructure, energy and resources in cooperation with other government agencies and with industry.
 - c. Protecting Australia's maritime domain from threats to freedom of navigation in our northern sea lines of communication maritime terrorism; piracy, robbery and violence at sea; compromise to bio-security marine pollution; and prohibited imports and exports.
 - i) Defence also provides capabilities to Border Protection Command in its role of preventing Irregular Maritime Arrivals; illegal activity in protected areas; and illegal exploitation of natural resources (for example, illegal fishing in our EEZ).
 - d. Exercises and operations to improve the individual training and readiness levels of our armed forces and demonstrating our ability to operate in a wide range of environments at Government direction should the need arise.
 - e. High readiness forces able to assist the civil authority with specialist capabilities such as counter-terrorism and contributing to humanitarian assistance during natural disasters.
 - i) It is important to note that the primary responsibility for dealing with more likely security risks in the area lies with domestic security agencies, law enforcement and industry. (An example of the latter being offshore platform operators having a responsibility for the basic security of their platforms and operations.)

Visibility of the Defence presence

22. Despite the high level of Defence activity across Northern Australia, the Australian Defence Force Posture Review found that there is a perception – particularly in the resource sector and local communities in the North West – that the ADF presence is not commensurate with the rapidly growing economic importance of the area.
23. There is more Defence activity in the north of Australia than is commonly realised, largely because Defence capabilities usually operate further out than industry and community stakeholders typically see.
24. For example, from October 2010 to October 2011, under Operation RESOLUTE:
- a. 2520 AP-3C hours were flown (noting 1850 hours are programmed per year), with 320 flights – including 173 flights from Learmonth and 31 flights to/from Cocos Island;
 - b. Patrol Boats were force assigned to RESOLUTE for 2707 days including 2063 days at sea and 644 days ashore;
 - c. Patrol Boats visited Darwin, Dampier, Port Hedland, Exmouth, Broome, Cocos Islands, Christmas Island, Gove, Weipa, Cairns, Mackay and Brisbane (and Indonesian ports in Jakarta, Bali, Cilicap, Kupang and Ambon);
 - d. Army's Regional Force Surveillance Units (RFSU) conducted 208 patrol days: 89 days by 51 Far North Queensland Regiment, 95 days by the North-West Mobile Force (NORFORCE) and 24 days by the Pilbara Regiment;

- e. in support of these RFSU patrols, Navy Landing Craft Heavy committed 61 days, Landing Craft Medium committed 106 days, and Air Force supported with two C-130 sorties; and
 - f. Transit Security Elements were embarked on Australian Custom Vessels for a total of 244 days with a further 272 embarked days for specialists – primarily communications related.
25. In addition, the ACBPS provided the following patrol effort in the North West region during Financial Year 2010-11:
- a. 78 days by Australian Customs Vessel Archer River within 12nm of the coast;
 - b. ten days of combined patrols between the Australian Customs Vessel Archer River and the WA Police;
 - c. 20 days by Bay Class Australian Customs Vessels; and
 - d. 6794 air hours by Coastwatch Dash-8 aircraft contracted by ACBPS with 1179 flights between the Pilbara and Kimberley.
26. A priority for Defence, in line with the recommendations of the Posture Review, is to increase awareness of this activity and invest in stronger relationships with local communities. By increasing the visibility of its presence in the north, Defence aims to shape positive regional and international perceptions about our preparedness and regional posture, avoid any possible perception that our vital national assets could be ‘soft targets’, and reassure the Australian community and industry that the region is adequately protected and Australian sovereignty is asserted.
27. To this end, Defence has developed a communication policy aimed at increasing the visibility of its activity in some parts of Northern Australia. Strategic communication guidance is now in place for activities in North West Australia. This document provides messaging and coordination guidance for regional and community engagement and for the development of public affairs products relating to ADF activity in the north west. Additionally, strategic communication guidance is being developed for the US Force Posture initiatives in Northern Australia.
28. This work provides a sound basis for communication planning in Northern Australia as we continue to strengthen our regional relationships and expand the scope of our practical defence and military cooperation with our closest neighbours. The work that has been done to inform and consult with the Darwin community in relation to the rotational deployments of US Marines also provides a useful precedent.
29. Defence is also looking to build positive and proactive Defence engagement with regional communities, including Indigenous communities, in Northern Australia. We continue to work with State and Territory counterparts and communities to identify initiatives to increase public awareness of the Defence presence in the Northern Australia and to inform the community about our role and activities using traditional and social media and through engagement in community events and fora.

Social and economic benefits

30. The nature and extent of the Defence presence in Northern Australia means that Defence is a major contributor to the economy and to the social fabric of this region. Defence members and their families are members of northern Australian communities. They make valued contributions to their host communities. As well as direct investment in infrastructure and employment of Australian Defence Force personnel, Australian Public Service personnel and contractors, the Defence presence indirectly benefits communities through flow-on employment and investment.

31. Defence spends in the order of \$1.5 billion to \$2.0 billion per annum in Northern Australia, with the actual spend year on year varying greatly. The vast majority of Defence expenditure in Northern Australia relates to military employee expenses (approx. \$1.3 billion) and estate expenditure (in the order of \$200-\$250 million per annum) which includes capital facilities, estate maintenance, property leases and military housing investment. The level of expenditure is highly dependent on capital facilities projects planned for the region. Over the period to 2017-18 to 2022-23, investment in Northern Australia is expected to increase as the capital facilities works associated with the announced US Force Posture initiative are undertaken.
32. It is difficult to measure the indirect economic impact of this expenditure, but studies suggest that Defence had a \$674m positive impact on the economy in the Northern Territory in 2009⁸ and a \$189.6m positive impact on the economy of northern Queensland in 2010.⁹ Similarly, studies conducted in 2013 on the likely social and economic impact of the rotations of up to 1,100 US Marines in Darwin predicted positive or neutral social impact and a modest positive economic impact.¹⁰
33. Defence supports regional and Indigenous communities in Northern Australia through education and health programs, and is a significant employer of Indigenous people in Northern Australia.
- a. Defence is a leading employer of Indigenous youth through the Regional Force Surveillance Units (RFSU) in the Pilbara, Kimberley, Arnhem, Cape York and Torres Strait regions.
 - i) A significant proportion of NORFORCE – the RFSU responsible for surveillance of the largest area of any military unit in the world – is made up of local indigenous soldiers.
 - b. The Army Aboriginal Community Assistance Program (AACAP) continues to improve environmental health, welfare and housing across Indigenous Communities.
 - c. Navy, Army and Air Force cadet programs provide youth opportunities to Northern Australians. In recent years, Defence has developed additional cadet units in remote communities.
34. Defence activity in the region also leads to significant sustainment opportunities for industry. The Northern Territory defence industry, based in Darwin, comprises small to medium enterprises (SME) working on maritime and light to heavy vehicle sustainment activities, directly or indirectly via prime contractors. The most significant single sustainment activity relates to providing fuel and lubricants to the territory's numerous Navy, Army and Air Force platforms. Across Northern Australia, Defence bases, equipment and platforms are also sustained and supported by industry and local suppliers.
- a. Limited industry capacity and logistic support in some parts of Northern Australia, however, also means there are constraints on expanding or increasing Defence presence, as discussed further in Part IV.
35. Defence is a responsible partner with other Commonwealth government agencies, State and Territory authorities and industry to support development in Northern Australia.

⁸ KPMG, Economic Report into the Major Defence Bases in the Northern Territory, Summary Report, 13 September 2009

⁹ SGS Economic and Planning, Report to the Australian Government Department of Defence, July 2010

¹⁰ Deloitte Access Economics, Social Impact of rotations of up to 1,100 US Marines and associated equipment in Northern Australia, 10 April 2013

IV. Future Defence activity and presence in Northern Australia and associated challenges

36. Defence anticipates that the drivers for a visible and active Defence in Northern Australia will continue.
37. Defence considers ADF presence and visibility in the north to be a critical aspect of Australia's response to major changes in our strategic environment, including in support of the US rebalance to the Asia-Pacific through the agreed US Force Posture initiatives. It is important that Northern Australian development take account of the expected expansion in both ADF and US armed forces presence. Over the period to 2017-18 to 2022-23, investment in Northern Australia is expected to increase as the capital facilities works associated with the announced US Force Posture initiative are undertaken.
38. This activity brings benefits and opportunities for Northern Australia, but will also increase Defence's use of facilities and infrastructure in the north. Similarly, we expect increased use of Northern Australian Defence training areas by both the ADF and our regional partners.
39. Constraints to plan around in Northern Australia include industry and labour capacity, commercial and residential encroachment, infrastructure, liveability, environmental and geographic factors. These factors, if not addressed, will reduce Defence's ability to operate effectively in this region in support of Australia's strategic interests.
40. For this reason, Defence continues to carefully monitor issues around the overall economic development of this region.
41. On one hand, a larger population, higher liveability index and a stronger industrial and logistics base will be useful sources of personnel and logistic support for Defence. On the other hand, our experience has shown that residential and industrial growth can also create land encroachment and pressure on shared logistics routes and resources. While further Northern Australian development represents an opportunity to enhance integrated transportation and strategic planning, this new infrastructure will be useful in supporting Defence presence only if it has sufficient capacity and can serve both civil and military uses. Stronger logistics arrangements that provide more resilience and redundancy, particularly at times of operational pressure, are of particular interest to Defence.

Current facilities, infrastructure and resource constraints

42. The current disposition of Defence bases and training areas around Australia has generally allowed Defence to meet Government tasking, including by conducting security and stabilisation operations in Timor-Leste and Solomon Islands, humanitarian assistance and disaster relief in the region and national tasks such as support to Border Protection Command.
43. The movement of Defence personnel, facilities and equipment is a costly exercise. As an example, the cost of moving thirteen Defence Units and four Defence facilities, including the School of Military Engineering, from Moorebank to the nearby Holsworthy Barracks in order to accommodate the Moorebank Intermodal Terminal, was \$870 million. The cost of any movement of personnel or assets north would likely exceed this given the higher construction costs in Northern Australia, and is not a cost that Defence has the capacity to absorb without considerable impact to the current planned program.
44. However, gaps exist including in the development of training areas and ranges, particularly as Northern Australia's importance to Defence continues to increase. Key points to note are:
 - a. Across Northern Australia, shortcomings in Defence facilities and necessary upgrades for future capabilities are progressively being rectified through programmed facilities projects conducted within budget constraints.

- b. Future development of training areas and acquisition of new training areas will similarly be priorities for Defence.
 - c. Consultation between Defence and ACBPS on future infrastructure requirements will remain critical, as the ACBPS uses naval bases for berthing its vessels and their demand is expected to increase.
45. To enable and sustain greater ADF operational activities in Northern Australia, Defence needs access to infrastructure such as ports, wharves, road and rail networks, as well as ready supplies of fuel and explosive ordnance. This is one of the current constraints of Northern Australia for Defence. Further development of this infrastructure can also benefit economic development in the region. Prioritising projects that serve both strategic and economic ends will optimise the development of the region.
46. Defence is keen to continue its engagement with other Commonwealth Government agencies, industry, State, Territory and local governments to ensure that future infrastructure planning takes strategic requirements into consideration.

Future infrastructure, industry and labour pressures

47. Parallel investment and development in mining, energy, agriculture, and tourism sectors, while presenting opportunities for greater Defence logistics engagement with a broadening national support base, may also bring increasing competition for access to fuel, logistic support routes and hubs, sea ports, roads, air and rail networks.
48. In general, industry, labour and infrastructure capacity is more limited and less diverse in Northern Australia than in the major population and industrial centres in the south. There are challenges in delivering marine maintenance support and ship repair, which is critical to Navy's capacity to mount and sustain operations in and from Northern Australia. Access to supplies of military fuels is also proving challenging.
49. Defence's experience indicates that the Northern Australia has higher costs and reduced availability of labour and facilities in comparison to the southern states. Strong resource sector competition increases the cost of wages, accommodation, transport and equipment. Although the current impact on Defence of resource sector competition is less than it has been in the recent past, this trend cannot be guaranteed to continue.
50. Productivity is reduced by tropical weather conditions unless expensive facilities are available to control the climate for ship and vehicle repair. Northern Australia's labour force is lower in number and, combined with higher transportation costs for the delivery of supplies, repairs in the southern states are usually more economical. Fly-in-fly-out arrangements for support are limited by the availability of suitable living accommodation. This makes the cost of defence basing in Northern Australia higher than other basing, particularly outside of the urban centres of Townsville, Cairns and Darwin.¹¹ Similarly, competition for skilled workers in regional areas of Northern Australia is intense, leading to the high numbers of fly-in, fly-out workers in the resource and energy sector and concomitant cost increases for Defence in attracting and retaining skilled contractor and APS workers.
51. Port, airport, road, rail and fuel infrastructure which is being used by the ADF, or might need to be in the future, is being used heavily by the resource and energy sector. Commercial demand is highly likely to increase as these industries continue to grow.¹² Access to a ready stockpile of fuel is problematic across Australia as a whole, and

¹¹ These three urban centres are the only three in northern Australia with a population over 100,000 and concomitant economies of scale. The 2012 ADFPR found that Defence construction costs in the Pilbara could be up to three times that of Perth; more recently, despite some lessening in resource sector competition, the comparative construction cost remains at least 1.5 times that of Perth.

¹² Port of Darwin in particular as a naturally occurring deep water port.

particularly in Northern Australia because of the infrastructure challenges already outlined. The Port of Darwin is an example of this trend with increasing demands on port facilities made more complex by the increased US presence.

52. Opportunities for industry as part of the rotational deployments of US Marines have been somewhat limited, given the relatively small numbers rotated to date. However, opportunities for Australian industry in supporting the Marines remain an important consideration as planning develops and the level of rotational presence increases.

Increasing commercial and residential encroachment

53. Encroachment refers to incompatible development adjacent to or in the vicinity of Defence facilities that, as a consequence, can require Defence to curtail its activities at those facilities. This can reduce the utility and, at worst, undermine the long term viability of these facilities. This is a particular issue concerning safeguarding distances around explosive ordnance storage facilities such as the explosive ordnance depot at RAAF Base Darwin.
54. Encroachment by new commercial and residential developments onto existing Defence bases and training areas is already an issue of increasing concern, with current examples at RAAF Bases Darwin and Townsville. RAAF Base Tindal is also coming under increased encroachment from rural residential development. Types of development that have the potential to adversely impact on Defence activities at bases and training areas include:
 - a. potential impact on the ease of entry and exit for Defence vehicles due to increased traffic volumes on major road networks servicing bases;
 - b. increased risks to base security from overlooking and trespass, particularly where increased urban development results in an increased number of people living and working in areas surrounding those bases;
 - c. land uses which create breeding or feeding opportunities for wildlife (for example developments with artificial water bodies or which generate large amounts of waste) leading to increased potential for bird strike on aircraft;
 - d. people-intensive land uses or land uses involving the storage of flammable or hazardous materials being proposed or located near or under the extended centre alignment of airfield runways without a statutory public safety area;
 - e. increased potential for unregulated tall structures and exhaust plumes to encroach upon operational airspace (currently Defence (Area Control) Restrictions are in place to restrict the height of development to below specified levels and ensure obstacle free airspace for safe aviation operations);
 - f. increased risk of upward light being emitted in sensitive areas near airfields;
 - g. noise sensitive uses such as housing, schools, child care centres and hospitals being proposed or located within aircraft noise buffer distances; and
 - h. potential for new developments to exceed the capacity of local utilities and services (such as gas, electricity, water, sewerage, fuel, communications) on which respective Defence bases also rely.
55. Successful development of Northern Australia will increase the urban density in all population centres, exacerbating these encroachment pressures – particularly in Darwin and Townsville. Encroachment can impact on Defence use of facilities for their intended purpose and may adversely affect ADF members' levels of training and readiness or Defence's ability to achieve its mission in this region. Some of these impacts are already present at Robertson Barracks (1st Brigade) in Palmerston, Darwin.

56. Increased development and a larger Darwin population may increase the encroachment risks on Defence activities at the Royal Australian Air Force Base Darwin. Large training areas such as Bradshaw and Yampi Sound may also face encroachment, particularly from mineral exploration and extraction activities as factors such as transport costs and isolation are reduced.
- a. Under different circumstances, Defence coexistence with mineral exploration activity is able to be achieved in the Woomera Prohibited Area, and lessons learned from that cooperation might be usefully applied to training areas.
 - b. Should Defence construct a new wharf at HMAS Coonawarra in Darwin, there may be friction points during mounting operations that would need to transit the Darwin Central Business District.
57. Issues of commercial or residential encroachment will need to continue to be managed carefully through continued engagement with other Government agencies, state and territory authorities and industry. The prevalence of extensive mineral exploration and extraction leases, and large areas of native title, reduces flexibility to acquire unencumbered land in a timely manner to support future training area requirements.
58. Access to logistic routes and resources can also be impacted. Freight networks, road and rail infrastructure will need to keep pace with regional development. Similarly, port access must be facilitated for forecast increases in cargo and ore shipping.

Changes in liveability factors

59. The liveability of Defence locations affects attraction and retention of Defence personnel. Liveability aspects¹³ vary widely across locations within Northern Australia. Shortages of appropriate, affordable and available accommodation and a lack of infrastructure are particularly pronounced in the north of Western Australia and the Northern Territory, with the cost of living in Darwin among the highest in Australia. On the other hand, the cost of living in much of tropical Queensland is lower than in most of Northern Australia, with stronger infrastructure, employment and economic opportunities in Townsville than in other areas.
60. Certain liveability factors are highly dependent on public and private infrastructure:
- a. Defence health support in Northern Australia leverages available public and private specialist and hospital services through all of Northern Australia and in particular Darwin, Cairns, Townsville and Rockhampton.
 - b. Limitations of qualified health workforce and foundation infrastructure provide barriers for both industries and Defence to locally deliver the full range of health support services in support of Defence activities, ADF members and their families.
 - i) Some examples include the full range of inpatient and outpatient mental health services, and specialist orthopaedic, neurological and dental services.

Geographic and environmental factors

61. **Weather impacts:** Northern Australia's weather remains the greatest restriction on Defence activities. The monsoonal characteristics of the region, compounded by cyclonic, flood and isolation risks, increase infrastructure, materiel and personnel costs for Defence and industry, and have operational implications. Operations, construction and training can

¹³ Many aspects contribute to the appeal or liveability of a location including: the cost and standard of living; housing availability and affordability; employment and economic opportunities; access to quality health and education services; and a safe and attractive environment, with adequate infrastructure and recreational and cultural facilities.

be hampered or prevented entirely by extreme weather in Northern Australia's cyclone belt, particularly during the tropical cyclone season from November to April. Heavy rain periods during the wet season reduce the days available for infrastructure works, while the provision of potable water to more remote areas in Northern Australia can be problematic, particularly in the dry season.

62. The climatic conditions in Northern Australia can reduce the effective life of resources, such as fuel and explosive ordnance, and induce more stringent requirements in their management. For these reasons, available quantities are generally kept lower, with a higher turnover rate.
63. Infrastructure must also be developed to ensure that Defence facilities, equipment and structures withstand the extremes of weather (temperature, humidity and wind) and be capable of operating during or immediately after an extreme weather event. This is more challenging and expensive in a tropical environment.
64. **Environmental issues:** Many of the Defence-managed training areas within Northern Australia are also of significant heritage value and are protected under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), Indigenous Land Use Agreements, and Commonwealth and other Heritage Listings. As a result, all infrastructure developments, capability use and Defence training activities are subject to environmental assessments. Defence understands the importance of effective stewardship of training areas for its continued access to them.

V. Mitigation of risks to current and future Defence presence

65. A well-coordinated approach across Defence, other Government agencies, State and Territory authorities and industry is essential to mitigate the limitations outlined in Part IV of this submission.
66. Certain factors, such as monsoonal weather, are an enduring constraint. However, action can be taken to mitigate the impact of several limitations outlined above. Defence will continue to be a key contributor in the North and opportunities for enhanced access to the regional support base need to be exploited, while at the same time ensuring that growing competition for access to logistic networks and hubs takes account of Defence's interests and requirements as planning priorities are agreed.
67. From a Defence perspective, some key strategies – some of which are already underway – would include:
 - a. Consideration of additional domestic fuel facilities to assist commercial and Defence expansion.
 - b. Consideration of appropriate port and storage infrastructure for explosive ordnance.
 - c. Defence to continue to work closely with State, Territory and local governments to ensure local planning schemes adequately recognise the presence of Defence and its activities.
 - i) A recent example of this is the joint Darwin Land Use Study (Northern Territory Government and Defence), completed in 2012. Defence and the Northern Australia Government worked together to strike a balance between development demand and reduction of encroachment risk, by identifying sensitive land uses and restricting them from being permitted in certain locations around the base.
 - ii) The annual Defence State and Territory Consultative Forums and subordinate working groups already provide a well-established and regular forum through which to coordinate government efforts. Defence welcomes opportunities to look at further consultation and coordination mechanisms, including

enhancing existing community engagement programs and policies for the insertion of primacy of Defence use clauses in infrastructure development contracts.

- d. Defence to maintain representation on the Standards Australia Committee currently reviewing AS2021, concerning building design and siting and aircraft noise intrusion – a standard widely used by state and local government as a planning tool to restrict noise sensitive development near airports and military airfields.
 - e. Defence’s planning to take account of the potential to exacerbate land use conflicts when considering expansion or intensification of use of its bases, such as at Robertson Barracks in Darwin.
 - i) Land use planning controls should also ensure that minimum buffer areas are maintained to accommodate the potential expansion of Defence bases.
 - f. Defence to understand the adaptation necessary to ensure a cost effective presence in Northern Australia over time and next steps to increase resilience of activities and facilities that support Defence presence. Greater investment or increased business incentives for improving critical infrastructure resilience in Northern Australia, spanning energy, transport, food, water and communications infrastructure and supply chain resilience would be welcomed by Defence.
 - i) Emerging opportunities also exist in energy markets. Northern Australian businesses are exploring alternate technologies such as gas-to-liquid and bio-fuels, which have the potential to assist Defence to diversify supply and improve supply resilience by shortening transport routes.
 - g. It will be important that opportunities are developed to exercise coordinated national responses to operational contingencies mounted and supported from Northern Australia, so that clear assessments of infrastructure capacity, flexibility and responsiveness can be accurately assessed. Offset against these potential risks, there may also be greater opportunities for Defence leverage of growing commercial industrial, engineering, and infrastructure.
68. As noted earlier, the Government’s 2015 Defence White Paper will align Australia’s defence policy with a clear military strategy and an affordable, properly funded ADF structure designed to achieve that policy. The Government’s considerations within the Defence White Paper process will include the level and disposition of the ADF presence in Northern Australia.

VI. Conclusion

69. Northern Australia plays a unique role in supporting the defence and national security of our whole continent and this importance will only increase as the world’s economic and strategic centre of gravity shifts towards our region. Northern Australia is at the sharp end of our nation’s defence, but is also a gateway to the region and our defence cooperation with our allies and regional partners. This strategic importance should not be understated.
70. Defence makes a vital contribution to Northern Australia’s security, development and culture and its communities. Defence has strong partnerships across Northern Australia, sees these as key assets for our defence and is committed to ensuring that Defence’s contribution is well understood across this region.
71. As this submission has outlined, while there are tremendous opportunities for Defence, other Government agencies, State and Territory authorities, industry and communities across Northern Australia to maintain and strengthen those partnerships and mutual benefits, there are unique challenges and pressures upon Defence’s presence and activities in Northern Australia. These challenges simply reflect Australia’s strategic geography

and the effects of successful development of Northern Australia in recent decades. These challenges are not insurmountable, but it is critical that they are understood and reflected in decisions that guide the current and future development of Northern Australia.

72. Defence looks forward to the Committee's considerations and would be very happy to provide any further information that assists the Committee.