29 October 2014

Defence White Paper 2015
R1-3-A135
Russell Offices
Department of Defence
PO Box 7901
CANBERRA BC ACT 2610

Dear Minister

Mackay Regional Council and the Diversify Mackay Leadership Alliance have read the Defence Issues Paper carefully and welcome the opportunity to provide input on the promotion of a globally competitive defence industry.

Mackay is at the beginning of a long-term strategy to better integrate local industry into the defence supply chain, involving extensive mapping of transferable skills and capability from the resources, education and agriculture sectors and cultivation of relationships and industry pathways with prime and subprime defence contractors.

Over the last ten years since significant mining activities commenced, the nature of the Mackay economy and population has undergone a substantial transformation. Mackay’s economy experienced continual growth from the resources sector creating a solidification of both a skilled population and a corresponding diversity of experienced businesses.

The Mackay-Isaac-Whitsunday region is home to Australia’s highest value sugar cane plantations, with a burgeoning industry in renewable biofuels and one of the world’s largest coal reserves in the nearby Bowen and Galilee Basins.

The now well-established industrial capability, along with significant development in accreditation and compliance specialisation as a result of operating in the resources sector, ensures that local businesses are capable of meeting the most stringent demands of the defence procurement supply chain.

Mackay Regional Council, along with our local industry alliance partners, Diversify Mackay Leadership Alliance, stands immediately ready to work with the Department of Defence to foster a productive long-term relationship.

Yours sincerely,

Cr Deirdre Comerford
Mayor, Mackay Regional Council
Chair, Diversify Mackay Leadership Alliance

Mr Quinton Hildebrand
CEO, Mackay Sugar
Deputy Chair
Diversify Mackay Leadership Alliance
Executive summary
Mackay Regional Council, and our local industry alliance partners, Diversify Mackay Leadership Alliance, recommend:

INTERNATIONALLY COMPETITIVE DEFENCE INDUSTRY

How can the Government best encourage the development of an internationally competitive Australian defence industry?

Mackay Regional Council and Diversify Mackay Leadership Alliance recommend that economic development and industry organisations be involved earlier in the procurement process so that small to medium enterprises can be more successfully integrated into the supply chain. Consulting and engaging with industry groups by the Capability Division would allow for longer-term pathways for capability transfer from industries with useful skills for defence. These groups are also best placed to advise on outside industry trends that would affect the availability of resources and skills for the defence sector.

PRIORITY INDUSTRY CAPABILITY FRAMEWORK

Is the PIC framework still the appropriate mechanism and how does this policy also deliver value for money? What other mechanisms exist that can promote value for money, innovation and support highly productive industries to better access global defence markets and supply chains?

Mackay Regional Council and Diversify Mackay Leadership Alliance support steady reform of defence procurement to make it a more transparent process. It is important that Priority Industry Capabilities fit within a long-term strategy for industry development, including detailed planning around industry capability upgrade projects and entry into the global supply chain by small to medium enterprises. In order to obtain efficiencies and value for money, there needs to be emphasis on technological planning for long-term integration of SMEs into the supply chain, not just attention paid to prime contractors. Mackay Regional Council and Diversify Mackay Leadership Alliance are undertaking capability mapping projects to help prime and subprime contractors connect with skilled SMEs.

INNOVATION AND EXPERT SKILL BASE

How can innovation more effectively be promoted and how should Defence draw on the private sector and Australia’s university and research sectors to help sustain and improve critical military capabilities?

Together with the long-term capability planning with SMEs, Mackay Regional Council and Diversify Mackay Leadership Alliance recommend that defence engage early in the planning process with education and training providers such as CQU to improve the numbers of students headed for careers in key areas such as engineering and technology, science, and mathematics.
Defence industry in northern Australia

Mackay understands it is vital for the efficiency of our defence industry that cost-effectiveness and the ability of the Australian industry to compete in the global marketplace is a top priority.

Value-for-money constraints are at the forefront of Mackay’s priorities. Mackay has a deeper understanding than most of changing global economic conditions and the need to stay competitive as Mackay is at the forefront of transitioning industry.

Some of Mackay’s biggest industries: coal mining, sugar production, agriculture and engineering have been subject to great change over the last ten years, and like the ADF, Mackay sees it as essential to keep up with changing demand.

However, there are some industries in which it is still of strategic importance to maintain industry in Australia regardless of international cost comparisons. Among them is the in-country maintenance of defence equipment and the production of biofuel for defence fleets.

Consequences of international trends in the defence industry sector

Industry and manufacturing has changed rapidly in recent years, and the defence industry has changed in line with those trends. Due in part to Australia’s relatively high wages and salaries, many manufacturing industries have moved to countries where a manufacturing industry is more financially sustainable.

In this way, major projects across sectors have become more complex operations, requiring the coordination of component parts across different countries and economies. Small to medium enterprises in Australia struggle to project manage these complicated multinational operations, necessitating the involvement of multinational corporations such as Airbus Group, Boeing, Volvo Mack, BAE Systems, Rheinmetall AG and Thales, among others.

Recent defence projects where Australian businesses have contributed to a larger defence project include the Joint Strike Fighter, the Thales Bushmaster vehicle and the CEA Technologies ship borne radar system. Mackay is actively engaged in a strategy to better match local industry capability with prime defence contractors to improve local industry access to global markets and shorten lead time in the supply chain for the defence sector.

Obsolescence and the need for in-country maintenance

In the coming years the ADF will face a growing issue of components of major equipment becoming obsolete and the need to source components.

Decisions will need to be made afresh on where to source these parts. Even if those parts are ultimately not made in Australia, it is vital that they are able to be supported in Australia. This will rely heavily on the capacity to draw on existing pools of technical experts...
able to transfer their skills to working with defence equipment and to defence standards.

Mackay industries are well placed to contribute in this area, but it is vital that planning in conjunction with local suppliers for the maintenance and overhaul of equipment over its entire lifecycle be done at the earliest stages of purchase decisions.

**Industry must be independently competitive**

Mackay Regional Council and Diversify Mackay Leadership Alliance agree that it is unsustainable in the long term for defence to support industries that cannot compete without government support, and Mackay is committed to better lining up its already competitive industry capabilities with key defence needs.

Companies contributing to a defence supply chain need to have:

- Consistency
- Proven track record
- Innovation
- Quality performance
- Competitive standing
- Financial health
- Accreditation
- Specific knowledge and skills transfer
- Quality performance
- Competitive standing

Northern Australia’s comparative strengths are well represented in Mackay, and Mackay Regional Council is actively engaging with local industry, the State Government and Defence Industries Queensland to fully assess how to more effectively contribute to defence industry.

**Industry in Mackay**

Northern Australia is a key area for defence both strategically and in terms of the critical support structures that have already sprung up around the nearly 40 per cent of Army personnel based Queensland.

Mackay is an excellent example of the advantages of northern Australia and Queensland, with strengths drawn from vibrant resources, education and training, and agriculture sectors.

What follows is a brief snapshot of innovation and defence-transferable expertise in Mackay obtained through recent capability mapping exercises. It is by no means an exhaustive list of capable businesses in the Mackay region.

Component manufacturing, maintenance and engineering capability

Mackay hosts a diverse range of recognised consulting engineering companies with extensive technical and project management experience, including large international companies such as AECOM, Aurecon, Cardno, GHD and Worley Parsons.

Because of their work with the resources industry, a vast number of Mackay companies are capable of working to the same strict standards as defence requires. The safety and testing
standards of designing, building, operating and maintaining heavy machinery for underground use in a mine are analogous to the extensive conditions testing for defence machinery. Mackay companies are adept in heavy vehicle maintenance and overhauls while constantly innovating to improve efficiency and safety.

These companies have developed strong track records in working within the resource industry supply chain for major mining companies, developing business processes that would translate well to working with multinational prime defence contractors.

G&S Engineering

G&S services encompass the entire range of manufacture, construction and maintenance services, both mechanical and electrical for fixed and mobile plant in the resources, energy and infrastructure industries. As a result of its continued excellence in maintenance and shutdown delivery, G&S has been successful in obtaining long-term maintenance and shutdown contracts with companies such as BMA, Rio Tinto, Anglo Coal, Xstrata and Wesfarmers.

The newly combined G&S Mechanical and Electrical Workshop has vast experience in life of asset support with all major and minor mechanical and electrical overhauls of various types of process industry equipment, including surface and underground mining equipment.

Some key G&S projects:

Onshore structural, mechanical, piping and electrical works at Hay Point Coal Terminal

The project was worth $140 million and involved structural, mechanical, piping, electrical and instrumentation erection, installation and commissioning of all onshore materials handling structures and equipment including conveyors, transfer towers, substation buildings and sample laboratory building, also including tie-in to existing operating equipment.

Dragline 40 maintenance shutdown of Blackwater Mine

This project was achieved ahead of schedule and under budget, and efficiency from previous CD replacement resulted in reducing the CD change-out process by 3,000 hours. The project was worth $20 million and included supply of equipment, labour, carnage, supervision and a range of subcontractors over the 5-month maintenance shutdown.

Austin Engineering

Austin Engineering is a leading designer and manufacturer of customised dump truck bodies, buckets and ancillary products used in the mining industry. Fully equipped workshops in Mackay with the latest in robotic welding systems and heavy duty overhead cranes are available for off-site maintenance and repair requirements. With a presence in some of the world’s principal mining regions, Austin Engineering provides high quality, cost effective solutions, delivered on-time and backed by through-life product support.

Diversified Mining Services (Mastermyne)

DMS has combined the expertise of leading service companies in the mining industry in Queensland, with more than of 350 employees and revenues of $100 million per annum. DMS has entered into an agreement with Mastermyne, who operates in three primary segments, Underground, Engineering and Services, complementary to DMS’s operations.
providing services and equipment to top tier customers including BHP Billiton, BMA, Glencore Xstrata, Rio Tinto, Vale, Peabody, Centennial Coal, Anglo, Monadelphous, Leighton, Aurizon and Calibre G&S.

Other key diesel heavy vehicle above and below ground experts operating in Mackay include (but are not limited to):

- Sirus
- KGB Diesel
- Valley Longwall
- Coalroc
- Techserve

Innovation snapshot: Torque Enterprises

Torque Qld is an engineering company based in Mackay creating and supplying parts and repairs for heavy machinery in the mining industry that is an excellent example of a Mackay company immediately ready to transfer skills and expertise to the defence sector.

Much of Torque’s current work involves direct requests from mining companies for the complete top-to-bottom overhaul of heavy machinery, including drive train, transmission, converter and differential maintenance. Torque can work on all varieties of heavy machinery, on trucks, loaders, fork lifts, dozers, graders and vehicles such as the Bushmaster.

Torque has handled heavy machinery manufacture from the design to assembly stages, with an impressive track record in technological innovation. The team at Torque designed the JUG-A-0 a flameproof, diesel-powered, 4×4 utility loader, powered by an 8-litre super charged Hino engine with a load-sense hydraulic system and a lifting capacity of up to 10,000kg that’s considered the market leader.

Torque Enterprises has customised its machinery for purpose, designing unique engine packages and superchargers for underground mining conditions where safety and testing standards are similar to the defence sector. Most impressively, Torque has developed a particulate filter for underground diesel vehicles that stands to save clients millions of dollars. Diesel fumes in an underground environment must be filtered as it’s classified as a carcinogen, and mining companies currently spend enormous amounts on filters lasting anywhere from 8 to an average of 20 hours. Torque-designed filters have passed extensive testing at TestSafe and have an average life of 60 hours, triple the market average.

University and skills training base

CQUUniversity is revolutionising post-school education and training in Queensland by becoming the state’s first comprehensive university, offering all levels of post-school education from Certificate 1 to Doctoral qualifications, within the Australian Qualifications Framework.

CQUUniversity is creating a seamless, coherent links between trade training, engineering, design and industry so that courses, along with an extensive research program, complement and enrich each other.
The Resource Industry Network representing more than 160 industry players based in Paget with direct, defence-applicable knowledge will now (as from 1 November 2014) be physically located on campus.

This partnership will further support the approximately 400 high school students who attend the school based apprenticeship centre every week, those in the trade training centre across trades such as metal fabrication, automotive engineering, gas, and construction, and those in higher education programs who will study at the $17 million engineering facility adjacent.

Defence could easily tap into the wealth of expertise in Mackay from the last three decades of CQUniversity offering its unique maintenance management course for the maintenance of the defence fleet.

If engaged early in the defence procurement and project planning process, the ADF could increase skill levels and capabilities in the precise areas of defence need by harnessing the complete integrated tertiary education and training centre, the only one of its kind in Queensland.

**Competitive in biofuel production from thriving sugar industry**

With approximately 90 per cent of Australia’s petroleum products now imported, there is a risk of fuel supply interruption in the event of a major international conflict. This has been recognised by the US Navy Energy Security, with the US Navy ‘Great Green Fleet’ initiative to have 50 per cent of global naval fuel supplied by biofuel producers by 2020.

Mackay Sugar and Wilmar Sugar have considerable resources in Mackay to produce biofuels. Senior defence personnel from the US and Australian navies visited Mackay in February 2012 to assess the potential for biofuel refuelling at Mackay port. Wilmar has been exporting first-generation ethanol through Mackay port for many years, while Mackay Sugar has recently participated in a two-stage study with the University of Queensland to evaluate the viability of producing advanced drop-in diesel and aviation fuel from sugar substrates.

Mackay Sugar hosts the Queensland University of Technology’s (QUT) Biocommodities Pilot Plant in Mackay, where research work into second-generation biofuels is being undertaken. Deloitte Access Economics has also highlighted the potential of a biorefinery industry in regional Queensland in a recent report to QUT.

With its large biomass sugar cane resource and existing fuel infrastructure at Mackay port, Mackay offers an ideal location to develop further biofuel production and refuelling facilities for Australian and US naval ships, and also for army vehicles involved in training exercises at Shoalwater Bay to the south of Mackay.

**Conclusion**

Mackay has a multi-layered industrial sector that crosses design, manufacturing, engineering, construction and maintenance. While industry focus has been directed towards the resources sector in recent years, the skills, knowledge and experience can be transferred to defence.
Mackay Regional Council and Diversify Mackay Leadership Alliance are undertaking capability mapping projects to help prime and subprime contractors connect with skilled SMEs operating in Mackay.

Mackay’s strong connections to CQUnter ensure business has access to the research, education and training that is needed to participate in a globally competitive defence supply chain.

For additional information on this submission, please contact Debra Howe, Manager Economic Development at Mackay Regional Council.

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