Australian Government

Australian Government response to the Senate Standing Committee on Foreign Affairs, Defence and Trade report:

Capability of Defence's Physical Science and Engineering Workforce

November 2016

Recommendation 1

The committee recommends that the Department of Defence commit to maintaining its physical science and engineering workforce capabilities in key areas to allow it to be both a 'smart buyer' and a technically proficient owner of materiel.

Government response

Agree

The Department of Defence is committed to maintaining its physical science and engineering (PSE) workforce capabilities and ensuring it meets contemporary and future needs in providing Defence capability. As identified by the committee, work in understanding and planning our workforce in a 'smart buyer' context is under way through implementation of the First Principles Review.

Work has commenced on a Defence Strategic Workforce Plan, which will provide the broad direction, supporting policies and workforce planning and management practices that will enable Defence to secure a highly capable workforce. The Plan will include initiatives to ensure Defence can attract and retain physical science and engineering workforce capabilities in key areas to allow it to be both a 'smart buyer' and a technically proficient owner of materiel.

A skills census is being conducted to identify skills and capability gaps across all job families, which will inform Defence's strategy for ongoing professional development of its PSE workforce.

Recommendation 2

The committee recommends that the Department of Defence create a role, with appropriate subject matter expertise, analogous to the Director General of Technical Airworthiness, as a regulator to assess the competencies required for specific procurement and sustainment positions and the suitability of candidates to meet those competencies.

Government response

Agree

Defence has created a Chief Systems Engineer position (Senior Executive Service Band 1), within the Capability Acquisition and Sustainment Group, which has engineering and technical workforce responsibilities. The new Chief Systems Engineer, in conjunction with the Defence Technical Regulatory Authorities (e.g. Director General of Technical Airworthiness), will assess the required technical competencies of the Defence PSE workforce. Defence Technical Regulatory Authorities and the Chief Systems Engineer will work together to enable the Defence workforce to meet the prescribed technical competencies for specific roles within the new Capability Life Cycle.

Recommendation 3

That Defence take a strategic approach to the professional development of its PSE workforce as part of the Defence Industry Capability Plan.

Government response

Agree

Professional development of the Defence PSE workforce is a priority and is recognised in the Defence Strategic Workforce Plan to be completed in the second half of 2016. Defence is also developing Group and Job Family specific workforce plans that will specify learning and development needs for the PSE workforce. Using the Australian Qualifications Framework and other independent peak PSE bodies as a basis, Defence has partnered with industry and academia to develop a comprehensive professionalisation program to address priority needs in the PSE workforce and to ensure Defence and Industry best practice are aligned. An integral part of this approach is for the promotion of industry recognition through membership and certification by professional bodies.

A skills census is being conducted of current levels of PSE skills in Defence's PSE workforce. The skills census will assist in identifying skills and capability gaps and will inform Defence's strategy for ongoing professional development of its PSE workforce.

Defence, in collaboration with the Centre for Defence Industry Capability (CDIC), is developing a Defence Industrial Capability Plan. The Plan, to be released by the second quarter of 2017, will profile the skills, technologies, infrastructure and capacity of Australian industry to meet the high priority capability needs of Defence. The plan will be dynamic to continually match the movement in industry capability and capacity with the priorities of Defence.

Consultation with industry in developing the Plan and the Defence skills assessment will help shape the future skilling initiatives for Defence and industry workforces.

Also, Defence project proposals to the Defence Investment Committee will give consideration to the critical skills and capability of Defence's workforce and the involvement of Australian industry.

Together these measures provide a holistic approach to professional development in what will be an increasingly integrated workforce of uniformed personnel, public servants and private industry.

Recommendation 4

That Defence undertake an assessment of workforce models to encourage more flexible and attractive arrangements for its critical PSE workforce.

Government response

Agree

Through the 2016 Defence White Paper, Defence will be investing $5 million over the next decade to the implementation of flexible, competitive offers for critical science, technology, engineering and mathematics and intelligence occupations, which will examine flexible employment models.

As part of the workforce plans described in response to Recommendation 3, a workforce analysis will be undertaken to identify the issues that may limit Defence's ability to secure the PSE workforce required in the future. Where appropriate, the workforce plans will identify attraction and retention initiatives for the PSE workforce.

Recommendation 5

That the Government clarify that the Defence Science and Technology Group (DSTG) will not be integrated into the Capability Sustainment and Acquisition Group.

Government response

Noted

Recommendation 2.17 of the 2015 First Principles Review recommended that "the Defence Science and Technology Group become part of the Capability Acquisition and Sustainment Group". The government did not agree to this recommendation and directed that it be considered again and advice provided as part of the annual update to the government on the progress of implementation of the First Principles Review. The first annual update is being prepared by Defence.

Recommendation 6

That Defence ensure that the roles and responsibilities of DSTG are directed to its areas of competence, rather than to technical risk assessments.

Government response

Disagree

Technical risk assessments are an important component of capability development. The core of a technical risk assessment is the identification of the risk that novel technologies, which are required to realise the desired capability, cannot be developed in the time available. The realisation of this risk has been recognised as a major cause of schedule delays and cost increases, and underpinned the recommendations of the Kinnaird review of Defence Procurement in 2003 when the framework for technical risk assessment and certification was established.

The requirement for technical risk assessments was confirmed by the 2012 Senate Standing Committee Foreign Affairs, Defence and Trade Inquiry into Procurement Procedures for Defence Capital Projects. In their submission to this inquiry, the Department of Finance cited the DSTG technical risk assessment as a major point of reference for their advice to government. Technical risk assessments also form part of the advice that Defence provides to government.

Assessment of this risk requires an understanding of the state of development of a technology, and of the difficulties in further maturing that technology. The technical risk assessment also considers the difficulties in integrating systems and sub-systems to deliver capability, and identifies measures that can assist in the treatment of those risks. Technical risk assessments are aligned and well-matched to the competency of staff within the DSTG, who have deep experience in developing novel technologies. The methodology that DSTG uses in undertaking technical risk assessments has been favourably reviewed by both the United States Department of Defense and the United Kingdom Ministry of Defence.

Analysis of the 2014 – 2015 Defence Science and Technology Program showed that 32% of DSTG effort is focussed on support to existing defence capabilities; 31% on support to new planned defence capability; 24% for forward looking research, including client-sponsored and strategic research; and 13% is for support to ad-hoc requests to support current ADF operations, national security (non-military) and other advice to government. In contrast, analysis of the effort used to develop technical risk assessments in a twelve-month period showed that this was less than 1.5% of the effort of DSTG personnel who directly contribute to the science and technology programs.

Recommendation 7

That Defence, in establishing the Defence Innovation Hub and Next Generation Technology Fund, review the obstacles to public research agencies, academia and industry personnel participating in research and development initiatives.

Government response

Agree-in-Principle

The key obstacles for participation of the academic and industry sector in the Defence innovation initiatives have been well explored during development of the 2016 Defence White Paper and the Defence Industry Policy Statement, which underpin the establishment of the Defence Innovation Hub and Next Generation Technology Fund.

Defence recognises the need for more strategic engagement with the national innovation system and this is a clearly stated goal of both the National Innovation and Science Agenda and the Defence Industry Policy Statement. Defence has developed innovation engagement mechanisms that will implement the Defence Industry Policy Statement. These mechanisms have been progressively announced and implemented since February 2016 with three key examples being:

- Defence Science Partnerships which are now recognised around Australia as an efficient and effective mechanism of engaging the university research sector;
- Fourteen Industry Alliances have been established to facilitate collaborative activities with large defence primes; and
- Partnerships Week with industry and academia was successfully held in June 2016.