# Chapter 3

# Current capability, importance, potential risks and workforce planning

## Introduction

3.1 Chapter 3 will cover the first three terms of reference of the inquiry. In particular, it will consider evidence received relating to the current capability of the Defence PSE workforce, its importance and the risks of skills shortages and a decline in Defence's PSE capabilities. It will also consider workforce planning issues.

## Current Defence PSE workforce

3.2 Defence provided an overview of the current Defence PSE workforce in its submission to the inquiry (extracted below). This workforce covers members of the Australian Defence Force (ADF), the Australian Public Service (APS) and support from Defence contractors. It stated:

> In July 2015, there were 14,534 ADF members working in the engineering and technical domain and 2,815 ADF members working in the ICT domain. The ADF does not have a dedicated 'physical science' workforce stream, but is organised around corps, categories or musterings across Navy, Army and Air Force. The ADF PSE workforce is directly aligned to capability outputs and supports tasks ranging from warfighting, to sustainment, to meeting military or departmental requirements. Members of the engineering and technical workforce are recruited at entry level and trained by the ADF, with each service undertaking its own workforce demand, management and supply functions.[1]

3.3 The APS PSE workforce currently comprised 9,748 employees often integrated with ADF members. Defence noted that while this number has fallen from 'a high of around 10,500 in 2013' it has remained static as a proportion of the overall number of employees working in the Department.[2]

3.4 The Defence PSE workforce was organised around eight 'job families', with positions grouped according to technical or functional disciplines.[3] These included:

- 2,050 in the Science and Technology job family;
- 2,050 in the Engineering and Technical job family;

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1 *Submission 28*, p. 2.

2 *Submission 28*, p. 6.

3 *Submission 28*, p. 2.

- 2,100 in the Intelligence and Security job family;
- 1,550 in the Logistics job family;
- 1,300 in the Information Communication Technologies job family;
- 450 in the Health job family;
- 150 in the Senior Officer job family; and
- 150 in the Trades and Labour job family.[4]

3.5 The Defence submission also provided additional information on the roles and responsibilities of the two key groups, the Defence Science and Technology Group (DSTG) and the Capability Acquisition and Sustainment Group (CASG) (extracted below).

3.6 The Defence Science and Technology Group's PSE workforce falls within the Science and Technology job family. It completes the following roles:

- supporting operational capability with science and technology expertise;
- providing science and technology support to Defence to sustain and enhance current capability;
- providing science and technology support throughout the genesis, development, acquisition and introduction into service of major capability projects;
- conducting research into high-impact areas for future Defence capability;
- scanning the environment to gain an understanding of emerging science and technology threats and opportunities;
- investigating client-focused future concepts, contexts and capability through science and technology;
- shaping defence and national security strategic policy through expert and impartial science and technology advice;
- leading the coordination and delivery of science and technology to enhance whole-of-government national security;
- enhancing Defence science and technology impact by collaborating with research and industry partners, nationally and globally; and
- promoting defence science and education in the broader Australian community.

3.7 The Capability Acquisition and Sustainment Group's PSE work is responsible for:

4 *Submission 28,* p. 6.

- deriving, translating and analysing Defence requirements of military equipment to the level that can be expressed in specifications used for contracting purposes;
- providing advice on technical implementation feasibility, risks, costs and issues in the identification of options and trade-offs in capability development leading to Government approval;
- preparing the plans, strategy and statement of work in contracts that accurately reflects the system development, modification, and integration activities to be conducted;
- monitoring progress and representing the Commonwealth's interests in the execution of contracts to ensure that vendors are delivering as required in terms of cost, schedule, and product capability;
- initiating and conducting reviews of technical issues associated with acquisition, sustainment, and disposal of military equipment;
- ensuring that military equipment satisfies Australian Law and Regulation throughout its service life;
- ensuring that equipment meets Technical Regulatory requirements throughout its service life;
- ensuring the military equipment is operationally available when required; and
- providing on-going analysis to ensure the effective and efficient management of military equipment throughout its service life.

3.8 Others also highlighted the diverse roles and spectrum of work undertaken by the Defence PSE workforce. The Australian Manufacturing Workers' Union (AMWU) noted that the Defence PSE workforce included 'trade work, information technology work, work in a physical science or engineering and management work associated with any of these'. It outlined:

> The [Defence Classification Manual (DCM)] describes "physical science or engineering" as including "Air Traffic Control, Avionics, Bio/chemistry, Dental assistance/therapy, Engineering, Fuel Science, Geoscience, Graphic Design, Land Surveying, Logistics, Marine Surveying, Materials Science, Metallurgy, Meteorology, Metrology, Naval Architecture, Oceanography, Petroleum Technology, Pharmacy, Physics, Surveying and Textile Technology".[5]

3.9 The complex nature of the PSE workforce within Defence was often emphasised. Northrop Grumman observed that within Defence there are a variety of entities and functions involved with 'defence science and engineering' activities:

> Some are standalone units; some are functional responsibilities within other entities; some are within the Defence Science and Technology Group; and

5 *Submission 17*, p. 3.

> some are within other parts of the Australian Defence Organisation, including the Services. Typical of these science and engineering related functions are: test, evaluation and development; modelling and simulation; operational analysis; materials testing; etc – with perhaps the best known of these entities being the RAAF Aircraft Research and Development Unit.

3.10 The emphasis on the diverse nature of the Defence PSE workforce led to arguments that tailored and specific approaches were required. For example, Northrop Grumman stated that 'discrimination needs be made between defence science and defence engineering, given the different application of the two diverse disciplines within Defence, and the need for a tailored management approach to each'.[6] Dr Andrew Davies from the Australian Strategic Policy Institute (ASPI) also described the different roles played by each professional group:

> Defence needs engineers and scientists. It needs engineers to help it identify and manage risk in projects and to manage its fleet of complex platforms and complex data and communications architectures. It needs scientists to collect data and conduct research that help inform operations and force structuring decision making and to investigate novel and promising technologies…
>
> Engineers in Defence are mostly about managing and reducing risk and uncertainty….while scientists require uncertainty to have sufficiently worthwhile problems to examine. There's a subtle but real conflict of interest here.[7]

## Importance of Defence's PSE workforce

3.11 There was broad agreement with Defence's description of its PSE workforce as 'critical to the organisation'.[8] Defence PSE workforce was perceived as important to Defence projects, as well as more generally to Australia's security and national interest. For example, Mr Callinan and Mr Gray observed:

> Just as Australia's circumstances are unique, so too are our defence needs, dependent as they are on geography, population (talent), budget and access/limits to overseas sources of PSE. This creates a unique demand for an onshore defence PSE capacity…An effective PSE workforce underpins all our defence efforts in an increasingly technologically driven world.[9]

3.12 Similarly, Northrop Grumman observed that '[a]s a capability enabler, the Australian Defence Organisation's science and engineering resource is of critical importance to Australia's national security'.[10]

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6 *Submission 26,* p. 2.

7 *Submission 19,* pp 1-2.

8 *Submission 28,* p. 6.

9 *Submission 16,* p. 4.

10 *Submission 26,* p. 2.

3.13 Several key areas were emphasised in discussing the importance of the Defence PSE workforce, including being a 'smart buyer', operational support, defence-specific research, economic value and safety.

### *A smart buyer and user*

3.14 The significance of the PSE workforce's advice and support for Defence acquisitions, sustainment and maintenance was the most frequently stressed aspect of the PSE workforces' importance. Defence noted it was 'reliant upon a materiel engineering and maintenance capability to efficiently and effectively define, acquire and support materiel that is fit-for-purpose, and legally compliant':

> Further, the PSE workforce plays a critical role in delivering required capability through providing advice, assurance and risk management. The workforce also plays an essential role in ensuring that industry continues to deliver Defence capability through cost effective and productive partnerships between industry and Defence.[11]

3.15 The Australian Manufacturing Workers' Union (AMWU) noted that 'approved expenditure for a single acquisition project can be up to $15.2 billion in total and up to $890 million in a single year, with the total approved expenditure for the top 30 acquisition projects being nearly $57 billion'.[12] The AMWU highlighted a report undertaken by Deloitte in 2012 on the engineering and technical stream:

> Ensuring Defence has appropriate APS engineering and technical skills is of critical importance for a number of reasons; most importantly because the APS engineering and technical workforce is central to the management of the integrity, worthiness and safety of capability over its lifetime. The workforce plays a critical role in delivering required capability through providing advice, assurance and risk management. The workforce also plays an essential role in ensuring that industry continues to deliver Defence capability through cost-effective and productive partnerships between industry, the Australian Defence Force (ADF) and APS.

3.16 Several submissions and witnesses emphasised the need for Defence to have a sufficient PSE workforce to allow it to be a 'smart' buyer or an informed customer. For example, Dr Davies noted that in his experience, having in-house expertise from public service engineers who could examine bids for work from external firms made him 'a much smarter buyer'.[13]

3.17 The Royal Institute of Naval Architects (RINA) considered the 'core importance of the physical sciences and engineering workforce is to provide Defence

11 *Submission 28*, p. 6.

12 *Submission 17*, p. 4.

13 *Committee Hansard*, 5 February 2016, p. 2.

(including ADF) with sufficient skills to be "informed customers and users" of the technical equipment that it acquires and uses'.[14] It stated:

> Defence policy over the past two or three decades has been, wherever possible, to purchase proven existing designs. However…the designs on offer in relation to a specific requirement invariably need to be closely examined and adapted to meet the engineering, strategic, environmental, safety and operational requirements of the Royal Australian Navy. For these purposes, the PSE workforce needs to have appropriate skills to ensure that the ship when in service, as the end product of the acquisition process, fulfils the capability, sustainability and reliability requirements of the Navy.[15]

### *Operational support*

3.18 The capacity of the PSE workforce to provide responsive field support and advice to the ADF on operations was also highly valued. Work that DSTG has undertaken to provide advice and solve specific problems for ADF operations in Iraq and Afghanistan was often cited in submissions.[16] Defence noted that 'the ability of the workforce to respond rapidly to changes in military needs, particularly regarding force protection, remains a fundamental role for the Science and Technology and Engineering and Technical job families'.[17]

### *Defence specific research and development*

3.19 Many submitters pointed to the increasing role of advanced technology in the operations of modern military forces. Defence noted that over 'the past two decades Western militaries have transitioned from being the primary driver of global technology innovation to becoming targeted innovators of defence unique technology, and fast followers/adopters of commercial technologies'. In this context, the importance of defence-focused science was repeatedly emphasised. For example, Mr Lovell from Northrop Grumman stated:

> While academia is heavily involved in doing some fundamental scientific research and some of it has military application, there are quite a number of areas that it is just not in the interests of academia to even look at, quite frankly. The other thing is that industry, while it does do scientific research, is mainly focussed on engineering and developing new products, because essentially it is about return to shareholders. So we believe that it is really important for Defence to do defence related science, the sorts of science that we see DSTG doing.[18]

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14 *Submission 27*, p. 4.

15 *Submission 27*, p. 5.

16 For example, Professionals Australia, *Submission 25*, p. 11.

17 *Submission 28*, p. 6.

18 *Committee Hansard*, 17 November 2015, p. 7.

### *Economic value*

3.20 The First Principles Review (FPR) acknowledged that the then DTSO undertook 'good work' but that it 'struggled to articulate clearly to the review team the value that it contributes to Defence outcomes'. It recommend DSTG be required to 'clearly articulate its value proposition'.[19]

3.21 As part of the implementation of the FPR recommendations, DSTG commissioned an independent study of the economic value of Defence's science and technology program since 2003. Ten case studies were considered by ACIL Allen Consulting including DSTG's projects for the Jindalee Operational Radar Network and the F/A-18 Structural Refurbishment. It conservatively assessed the tangible economic benefits of the DSTG's research and support associated with the ten case studies as being approximately $5.1 billion. It concluded:

> In taking into account the conservative bias in our assessment of benefits and the case studies represent a relatively small proportion of the total [DSTG] effect, it may be reasonable to conclude that the extension of the case study approach across all [DSTG] projects would yield 4 to 5 times the value ($20 to $25 billion).[20]

### *Safety*

3.22 An effective Defence PSE workforce was also perceived as critical to protect the safety of ADF personnel and others. For example, Professionals Australia described how a lack of investment in technical integrity could result in 'another Sea King, Westralia or Nimrod', referring to well-recognised military accidents in Australia and the UK which were at least partially attributed to failures in engineering and technical safety. Similarly, Mr Peter Leggatt highlighted the potential risks of flawed or faulty ammunition and ordnance provided to the ADF:

> Any future decline in [Proof and Experimental Establishment] capabilities and of the physical sciences and engineering will limit the ability of the Government through Defence to provide safe and suitable explosive ordnance that increases our force multiplication and also the ability to investigate and analyse future incidences of failure of defence ammunition and ordnance, of which historic evidence suggests is increasing…
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> While the above is a physical science issue, the moral issue of the government abrogating its responsibilities of ensuring soldiers, sailors and airmen/women are supplied with safe and effective ammunition/ordnance sourced from commercial suppliers whose primary interest is profit, is of serious concern.[21]

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19 FPR, p. 41.

20 ACIL Allen Consulting, *Economic impact case studies establishing the economic value of the Defence science and technology program*, 31 August 2015, p. 4.

21 *Submission 14*, pp 2-3.

## Potential risks

3.23 Several submissions argued that the capabilities of Defence's PSE workforce have been reduced over the previous decade and that a number of skills shortages had been allowed to develop. Professionals Australia noted that when HMAS Kanimbla broke down in Sydney Harbour in 2010 and was subsequently decommissioned, the Rizzo review 'attributed the disaster to shortcuts in maintenance and the loss of engineering capability in Defence'. It also outlined a series of other previous failures or 'near misses' which it attributed to a reduction in technical and engineering expertise in Defence. It stated:

> The responsiveness and capacity of the Australian Defence Force is fundamentally underpinned by the knowledge and expertise of the engineering, science and technical workforce - the people who develop, select, integrate, maintain and operate our modern defence effort. The problem is this intellectual capital has been run down to dangerous levels.[22]

3.24 Mr Alan Gray and Mr Martin Callinan also noted that public records suggest that 'the PSE workforce in Defence has recently diminished and current services are under significant stress':[23]

> From a Budget perspective, in areas where the PSE workforce is most likely to be found, namely defence R&D, data says that total expenditure on defence R&D has fallen steadily since 2011. Further, the government R&D share of the overall defence R&D budget has dropped from 2% in 2008-09 to a forecast 1.1% in 2017-18. Between 2012-13 and 2017-18, DSTO is budgeted to reduce expenditure by around $169 million.
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> In short, Australian defence science and technology investment, as a proportion of defence spending, is less than that of the Netherlands, Canada, Sweden and Singapore. With respect to population growth, per person expenditure has more than halved since 1977.[24]

3.25 Mr Gray and Mr Callinan suggested that Defence had followed the usual pattern of organisations when confronted by budget and staff cuts 'namely, to protect at all costs existing programs and activities'. This situation had created conditions that 'discourage risk and innovation and is exacerbated by government signals that no new policy or program initiatives will be considered without offsetting savings'.[25]

3.26 The AMWU pointed to budgetary cuts, outsourcing and centralisation of Australian Public Service workplace relations policy as leading causes of these reductions in capabilities.[26] Mr Nicholaides from the AMWU told the committee 'that

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22 *Submission 25*, p. 2.

23 *Submission 16*, p. 5.

24 *Submission 16*, p. 5.

25 *Submission 16*, p. 7.

26 *Submission 17*, pp 9-10.

Defence has in recent times lost a great deal of PSE experience and is about to lose considerably more'. He noted that in 2014 the average age of the engineering and technical job family was estimated to be 52.[27] Defence personnel also provided submissions which highlighted concerns in their areas regarding PSE capabilities. A loss of technical capabilities and experience was frequently highlighted. Some referred to PSE capability being 'one deep', implying that if a single person retired, took a redundancy or moved to the private sector a key area of technical expertise would be lost.[28] Mr Smith from Professionals Australia stated:

> We have a workforce that is rapidly headed towards retirement. Our view is that across too many disciplines, because we are either only one deep or, at the most, two or three deep, we do not have the expertise to be a smart buyer. We do not have the capacity to be necessarily in both the procurement and sustainment spaces.[29]

3.27 RINA contended that 'the many Defence re-organisations imposed over the past 25 years, with many PSE staff taken/transferred from the original Service technical areas, has resulted in the organizational separation of staffs into small groups of engineers that are relatively isolated from one another and below a critical mass for adequate staff development'. [30]

3.28 Mr Bushell, a retired Air Commodore, described DMO as having 'floundered' because it had been administered by people lacking in sound knowledge of the military capabilities being acquired, their unique operational and engineering challenges and the project methodologies critical to their management:

> The result has been a series of extremely costly project failures in required capabilities, schedule, cost and adverse impacts upon Australia's military capabilities. What is needed are hard-core operational, engineering and project management competencies appropriate to the system being acquired, and the technologies comprising it.[31]

3.29 A particular area of concern was the role and stress on the PSE workforce in DSTG. DSTG's budget for 2015-16 is $432 million, which is approximately 1.4 per cent of the total Defence budget.[32] The Defence Annual Report 2014-15 stated that one of the Key Performance Indicators for 'Programme 1.9 Defence Science and Technology' was 'substantially met'. However it noted that '[b]udget management and

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27 *Committee Hansard*, 5 February 2016, p. 12.

28 For example, Mr Hunter, AMWU, *Committee Hansard*, 5 February 2016, p. 17.

29 *Committee Hansard*, 17 November 2015, p. 22.

30 *Submission 27*, p. 8.

31 *Submission 1*, p. 1.

32 ANAO, 'Managing Science and Technology Work for Defence – Defence Science and Technology Group', *ANAO Report No. 19 2015-16*, p. 15.

rebalancing within the department led to Defence clients agreeing to some medium- and lower-priority tasks being cancelled or deferred'.[33]

3.30 Mr Day, an electronic technician, considered that the government seemed to be happy to let DSTG 'wither and die':

> The average age of workers here is 52 and there's been almost no recruitment for 8 years. Staff numbers are falling, especially in the technical ranks, and the admin overhead is increasing, so we're having difficulties meeting our work commitments.[34]

3.31 Concerns were expressed during the inquiry that the role of the DSTG had altered. For example, Mr Gray told the committee that 'since the Kinnaird review in 2003, the mission for [DSTG] has changed':

> You are seeing far less of that new technology and the technology that will make a difference for the war fighter in the battlefield to win and prevail. They are not doing as much of that as they used to. They are still doing a bit, but they are now being drawn more and more into being expert advisers or consultants on particular matters.[35]

3.32 Dr Davies also outlined challenges for DSTG. He considered Defence had 'blurred the lines' by asking DSTG 'to perform what is effectively a systems engineering task in the form of technical risk assessments in support of decision making on major projects'. He argued:

> At best that is a misapplication of expertise, and at worst it is a recipe for poor engineering outcomes. Either the [DSTG] has to move into the business of engineering, thus diluting its core science mission, or it will bring a scientific mindset to an engineering problem.[36]

3.33 This potential risk to DSTG's scientific research role was also articulated by others. For example, the Australian Academy of Science urged that Defence 're-commit to a program of basic and applied scientific research as a core activity, to develop future expertise and technology'.[37]

3.34 The consequences of a decline in PSE workforce capability were perceived as serious. For example, Dr Davies noted that '[i]f you do not have sufficiently robust engineering capability to run major projects, particularly in a rigorous systems engineering way, you get poor outcomes in terms of project schedule, budget and sometimes capability outcomes as well'.[38]

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33 *Defence Annual Report 2014-15*, p. 59.

34 *Submission 11*, p. 1.

35 *Committee Hansard*, 17 November 2015, p. 28.

36 *Committee Hansard*, 5 February 2016, p. 1.

37 *Submission 9*, p. 3.

38 *Committee Hansard*, 5 February 2016, p. 2.

3.35 Mr Callinan and Mr Gray described the 'real risk posed by having neither adequate PSE skills within Defence nor being able to readily and quickly harness such skills from outside of Defence, is that our national security system will not be suitably agile in responding to surprise developments'.[39] Mr Gray characterised Australia's technological advantage in defence as 'eroding':

> Some of this erosion is self-inflicted. To be frank, we have taken our eyes off the technology ball to the extent that today Australia is lagging vis-a-vis a number of our neighbours in the Asia-Pacific in building and investing in high-quality science, technology, engineering and mathematics research capacities and infrastructure.

3.36 In contrast, Defence assessed the 'the risk of a skills shortage in its PSE workforce and decline in PSE capability to be low'. While it acknowledged that some 'shortages remain in a limited number of related trade and technician occupations', Defence considered they were likely to 'ease in the short term'.[40]

3.37 Defence argued that the PSE workforce has continued to be effective in supporting Defence and the Australian Government. It noted that the 'ADF is running multiple overseas and domestic operations, and Defence is undertaking classified high-end research while simultaneously improving force protection for Australia's partners in Afghanistan' while simultaneously there are 180 acquisition projects under way. Defence argued that its PSE workforce has achieved this success during a period of APS downsizing through careful management of priorities against workforce resources. It outlined that Defence monitors its PSE workforce against capability requirements and seeks to recruit APS staff before vulnerabilities emerge.[41]

3.38 Ms Skinner, Deputy Secretary of Defence People Group, told the committee:

> It is worth noting that successive governments have asked us to reduce the size of the APS workforce, and we have come down from a high of 22½ thousand three or so years ago to around 18,000 today. It means that the physical science and engineering workforce reductions have generally been in line with those of the rest of the department, with changes driven by need. The variation in PSE numbers has not compromised Defence's ability to meet capability and government requirements, and that remains the focus of how we make our decisions.[42]

## Defence PSE workforce planning

3.39 A June 2014 internal audit of the Defence Materiel Organisation's engineering and technical workforce concluded that the state of its engineering and technical workforce was 'a risk to Defence capability'. It noted that DMO has limited visibility

39 *Submission 16*, p. 7.

40 *Submission 28*, pp 8-9.

41 *Submission 28*, p. 2.

42 *Committee Hansard*, 5 February 2016, p. 21.

of their workforce skills, no targeted strategies for attraction and retention of the right skills and resources required for future capability and no ability to model engineering and technical workforce requirements for the future.[43] These concerns were echoed in the First Principles Review. It recommended Defence 'build a strategic workforce plan for the enabling functions, and incorporate workforce plans for each job family in order to drive recruitment, learning and development, performance and talent management'.[44]

3.40 Insufficient or inadequate workforce planning was a common issue raised in submissions. Mr Alan Gray and Mr Martin Callinan suggested the committee 'may find it difficult to establish the true state of PSE capability within Defence as the statistical collections within the portfolio are not collected or managed in a fashion that make it simple for Parliament to draw ready or accurate conclusions about even the numerical state of the PSE workforce'.[45] Mr Gray told the committee that there was 'an urgent need for Defence to bring out a PSE labour force blueprint which charts civil and ADF labour force challenges, needs and requirements over the next 10 to 15 years':

> Aside from providing as much certainty as possible for the PSE community within Defence, however you define that, such a document would also be invaluable for our universities and technical institutions in helping them plan and develop programs which would meet the fewer recruitment needs of Defence and the national security community.[46]

3.41 The RSL noted that it has previously made submissions that described the fact that Defence does not systematically collect, store and update comprehensive information on the skills of its enabling workforce as 'a major failing'. It has previously argued that Defence 'has limited visibility of their workforce skills…no targeted strategies for attraction and retention of the right skills and resources required for future capability....no ability to model engineering and technical workforce requirements for the future'.[47]

3.42 Mr Efthymiou from Professionals Australia characterised Defence's previous workforce approaches as being incorrectly focused on restraining 'inputs':

> When you start to look at something from the input side, you start to treat it as a cost, as a liability to be minimised and a cost to be reduced. If you were to look at it…as an investment—what could you achieve if you had more staff—you may get a different view of things.[48]

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43 Ernst and Young, 'Internal Audit of the Professionalisation of Engineers', 2013/14 No. 6, *Final Report*, Department of Defence, June 2014, p. 5.

44 FPR, p. 57.

45 *Submission 16*, p. 5.

46 *Committee Hansard*, 17 November 2015, p. 26.

47 RSL, *Submission 4*, p. 3.

48 *Committee Hansard*, 17 November 2015, p. 25.

3.43 Mr Grimm also criticised 'the current crude APS Full Time Equivalent (FTE) count' approach to workforce planning. He noted:

> FTE makes no discrimination between pay grades (ie: actual salary costs) and indirectly encourages the engagement of external service providers simply to overcome FTE restrictions, in order to complete the necessary work, even if this comes at a higher total cost.[49]

3.44 Defence acknowledged the workforce planning issues raised in the First Principles Review. It noted:

> The sources of risk included:
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> i. Limited visibility of engineering and technical workforce skills.
>
> ii. No targeted strategies for attraction and retention of the skills and resources necessary for future capability.
>
> iii. No ability to model the engineering and technical workforce requirements for the future.
>
> iv. Insufficient support from the Defence People Group to the Defence Materiel Organisation (now the Capability Acquisition & Sustainment Group).[50]

3.45 It outlined:

> Defence will deliver a comprehensive workforce strategy following the release of the White Paper and Force Structure Review. The First Principles Review recommended developing the strategy to avoid repeating the patchwork of initiatives drawn from previous reviews that had considered elements of the Department's workforce in isolation. The priorities set by the White Paper and Force Structure Review will influence how Defence uses the strategy to shape its workforce to meet the requirements of the Government. This improved corporate planning will also drive improved oversight of Defence's workforce and facilitate earlier warning and more agile responses to workforce challenges as they emerge.[51]

3.46 As noted above, the Defence PSE workforce is organised around eight 'job families', with positions grouped according to technical or functional disciplines. In particular, functions supporting sustainment or the acquisition of Defence materiel generally belong to the Engineering & Technical job family, and the DSTG's workforce falls within the Science and Technology job family. However, Defence outlined that a single profession can be represented in multiple job families, for example engineers are also represented in the ICT and Intelligence and Security job

49 *Submission 23*, p. 2.

50 *Submission 28*, p. 3.

51 *Submission 28*, p. 4.

families.[52] Defence noted that it had made some adjustments to the job family construct during the period 2012-2015:

> Primarily, these changes were to more closely align departmental arrangements with the Australian Public Service Commission job family construct and the overarching Australia New Zealand Standard Classification of Occupations (ANZCO). Changes to job families are aimed at providing more accurate descriptions of the roles being carried out and do not affect the work being conducted by employees. Defence will continue to make adjustments of this nature, as the impact of changing technology, profession changes and ongoing evolution of roles within the Department necessitates role description updates.[53]

3.47 At the public hearing in February, Defence stated it had commenced development of the strategic workforce plan and it was on schedule as a 'deliverable' for the middle of the year. Ms Skinner, Deputy Secretary of Defence People Group, told the committee:

> [W]e are working to develop workforce plans for each job family in order to drive recruitment, learning and development, performance and talent management, which does go to some of the issues just raised, and to provide career and skilling pathways. Those workforce plans will be informed by a census of the current skills of the Defence/APS workforce against organisational requirements. That census will be undertaken between March and August this year, initially focusing on the First Principles Review, key job families, which are engineering and technical, logistics, project management, procurement and contracting, and strategic and international policy…
>
> [W]e are finalising an engineering technical strategy to support our APS members within that job family. The strategy will articulate a pathway from entry level to senior management for specialists wishing to plan a career in Defence in their field of expertise. Linked to a learning and development framework, it will assist individuals in identifying the skills they need to acquire to advance in the APS. By providing that clearer structure, the strategies will support our ability to develop and retain. Those programs are in their infancy.[54]

3.48 Further, Defence noted that under the FPR 'there is a specific initiative to take a much more programmatic approach to our acquisition and life cycle work into the future rather than just looking at things project by project'. While this had commenced, it was 'in very early stages at the moment'.[55]

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52 *Submission 28*, pp 7-8.

53 Defence, response to question on notice from the public hearing on 5 February 2016.

54 *Committee Hansard*, 5 February 2016, pp 20, 22.

55 Mr Devlin, Defence, *Committee Hansard*, 5 February 2016, p. 25.